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The purpose of this study was to investigate and examine the relationship of institutional factors students perceived to be important while enrolled in a community college. A student satisfaction inventory was administered on campus to collect data on first-time students' perceptions of their college experiences. Results of the study indicated students' overall college experiences had been better than expected and they were generally satisfied with those experiences. Findings revealed positive relationships existed among a variety of institutional variables, including academic advising and counseling, academic services, registration effectiveness, and student centeredness. Registration effectiveness received the highest rating of satisfaction, while campus support services were least satisfactory. Registration effectiveness proved to be the single most significant predictor of students' intent to re-enroll. Satisfaction was generally higher for Hispanic students for campus support services, responsiveness to diverse populations, and safety and security. Women reported higher expectations of the college, yet there were no differences among genders for satisfaction among ethnic and gender groups. Women of both ethnic groups reported greater expectations for academic services than did men of either ethnic group. Based on the results of the study, recommendations for administrators and future research are discussed. Contains 98 references. Appended are a summary of instrument item statements, DABCC study approval correspondence, and participant correspondence and consent form. Contains 22 tables. (Author)

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ED 474 544

A COMPARISON OF INSTITUTIONAL FACTORS AND STUDENT SATISFACTION: RETENTION IMPLICATIONS IN A HISPANIC-SERVING COMMUNITY COLLEGE

BY

MICHAEL R. ELROD, B.A., M.A.

A dissertation submitted to the Graduate
School in partial fulfillment
of the requirements for
the Degree
Doctor of Philosophy

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Major Subject: Educational Administration

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"A Comparison of Institutional Factors and Student Satisfaction: Retention Implications in a Hispanic-Serving Community College," a dissertation prepared by Michael R. Elrod in partial fulfillment of the requirements for the degree, Doctor of Philosophy, has been approved and accepted by the following:

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DEDICATION PAGE

I dedicate this doctorate to my best friend and wife of thirty years, Debra. She has filled my life with love and has taught me so much about myself and the meaning of life. To my children, Amy and Aaron, thank you for being such a significant part of my life. You have given me inspiration and unconditional love that means so much to me.

My professional life could not have been as successful without my family's belief in me. My parents, Fay and Ralph Elrod taught me the value of hard work, moral convictions, and compassion for others. To them I give thanks for helping me become a better person.

In fond memory of my beloved grandparents, Nellie and Tommy Rigdon, and Mabel Elrod. They were loved by so many and gave so much of themselves for the benefit of their families. Life's lessons would have been much harder to learn without their having touched our lives.

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Last but not least, I wish to acknowledge and thank all my students and colleagues that have touched my life and allowed me to be a part of their lives. I, in turn, hope they have benefitted from our collective affiliation as much as I have from working with and for them.

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ABSTRACT

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Doctor of Philosophy

New Mexico State University
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Dr. Roy C. Rodriguez, Chair

The purpose of this study was to investigate and examine the relationship of institutional factors students perceived to be important while enrolled in a community college. A student satisfaction inventory was administered on campus having collected data on first-time students' perceptions of their college experiences.

Results of the study indicated students' overall college experiences had been better than expected and they were generally satisfied with those experiences. Findings revealed positive relationships existed among a variety of institutional variables including: academic advising and counseling, academic services, admissions and financial aid, campus support services, registration effectiveness, and student centeredness. Registration effectiveness received the highest rating of satisfaction while campus support services were least satisfactory.

Registration effectiveness proved to be the single most significant variable in prediction of students' intent to re-enroll. Satisfaction was generally higher for Hispanic students for campus support services, responsiveness to diverse populations, and safety and security. Women reported higher expectations of the college, yet there were no differences among genders for satisfaction. The study revealed no differences in satisfaction among ethnic and gender groups. Women of both ethnic groups reported greater expectations for academic services than did men of either ethnic group.

Based on the results of the study, recommendations for administrators and future research were discussed.

TABLE OF CONTENTS

Page

LIST OF TABLES xvii

LIST OF FIGURES xix

Chapter

1. INTRODUCTION 1

Background of the Problem 1

Statement of the Problem 5

Purpose of the Study 6

Assumptions of the Study 9

Research Questions 9

Research Question 1.1 9

Research Question 1.2 9

Research Question 2.1 10

Research Question 2.2 10

Research Question 3 10

Research Question 4 10

Research Question 5 11

General Research Hypotheses 11

Research Hypothesis 1.1 11

Research Hypothesis 1.2 11

Research Hypothesis 2.1 12

Research Hypothesis 2.2 12

Research Hypothesis 3 12

Page

Research Hypothesis 4.1 12

Research Hypothesis 4.2 12

Research Hypothesis 4.3 13

Research Hypothesis 5.1 13

Research Hypothesis 5.2 13

Research Hypothesis 5.3 13

Significance of Study 13

Delimitations 14

Definition of Terms 15

Summary 17

2. REVIEW OF THE LITERATURE 19

Introduction 19

Challenges and Issues 20

Student Retention Issues in Higher Education 22

Attrition in Higher Education 24

Retention in Higher Education 26

Student Departure from College 28

Student Satisfaction 32

Student Characteristics and Institutional Variables 37

Student Characteristics 38

Page

Institutional Variables 41

Student Retention Theories 43

Student Involvement Theory 43

Student Interactionalist Theory 45

Model of Validation Theory 46

The American Community College 48

Community College Characteristics 48

Community College Students 51

Non-Traditional Student Profile 51

First-Generation Community College Students 53

Hispanic-Serving Institutions 56

Hispanic Student Enrollments 58

Doña Ana Branch Community College History, Mission, and Purposes 59

DABCC Student Demographics 61

Community College Retention Studies 62

Summary 68

3. RESEARCH METHODS 70

Introduction 70

Research Design 70

Page

Research Questions 72

  Research Question 1.1 72

  Research Question 1.2 73

  Research Question 2.1 73

  Research Question 2.2 73

  Research Question 3 73

  Research Question 4 74

  Research Question 5 74

General Research Hypotheses 74

  Research Hypothesis 1.1 74

  Research Hypothesis 1.2 74

  Research Hypothesis 2.1 75

  Research Hypothesis 2.2 75

  Research Hypothesis 3 75

  Research Hypothesis 4.1 76

  Research Hypothesis 4.2 76

  Research Hypothesis 4.3 76

  Research Hypothesis 5.1 76

  Research Hypothesis 5.2 76

  Research Hypothesis 5.3 76

Instrument Selection and Utilization 77

  Instrument Item Development 78

Page

Instrument Reliability and Validity 80

Data Tabulation 81

Variable List 81

Data Collection Procedures 84

Participant Correspondence 85

Inventory Administration 87

Treatment of Data 88

Summary 91

4. RESULTS OF THE STUDY 93

Introduction 93

Study Participants 94

Demographics of Study Participants 95

Study Results--Findings of the Instrument Items 99

Study Results--Research Hypothesis 102

Research Hypothesis 1.1 103

Research Hypothesis 1.2 104

Research Hypothesis 2.1 105

Research Hypothesis 2.2 106

Research Hypothesis 3 107

Research Hypothesis 4.1 111

Research Hypothesis 4.2 111

Research Hypothesis 4.3 113

Page

Research Hypothesis 5.1 116

Research Hypothesis 5.2 118

Research Hypothesis 5.3 118

Summary 119

5. SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS 120

Introduction 120

Summary of Study 120

Conclusions and Implications 121

Relationship of Student Expectations and Satisfaction 121

Differences in Student Expectations and Satisfaction 123

Institutional Variables and the Influence on Students' Intent to Re-enroll 126

Differences between Student Groups 127

Retention Implications 131

Recommendations for Future Research 135

Summary 137

APPENDICES 139

A. SUMMARY OF INSTRUMENT ITEM STATEMENTS 140

B. DABCC STUDY APPROVAL CORRESPONDENCE 146

C. PARTICIPANT CORRESPONDENCE:
FOLLOW-UP LETTER #1 147

Page

D. PARTICIPANT CONSENT FORM 149

E. PARTICIPANT CORRESPONDENCE:
FOLLOW-UP LETTER #2 150

F. PARTICIPANT CORRESPONDENCE:
FOLLOW-UP LETTER #3 152

REFERENCES 154

LIST OF TABLES

Table Page

1. Distribution by Gender of Study Population and Respondents 95
2. Gender and Age 96
3. Ethnicity 96
4. Enrollment Characteristics 97
5. Academic Record 97
6. Educational Goal 98
7. Descriptive Statistics of Cluster Variables 100
8. Expectation and Satisfaction--Summary Responses 101
9. Intent to Re-enroll 102
10. Correlations Between Overall Expectations and Satisfaction Variables 103
11. Correlations Between Expectation and Satisfaction Variables 105
12. T-Statistics: Overall Expectations and Overall Satisfaction 106
13. T-Statistics: Expectations and Satisfaction Variables 107
14. Restricted Model: Step 1--Stepwise Procedure Expectation Variables and Intent to Re-enroll 109
15. Restricted Model: Step 2--Stepwise Procedure Expectation Variables and Intent to Re-enroll 109

Page

16. Full Model: Step 3--SAS Stepwise Procedure Expectation Variables and Intent to Re-enroll 110

17. Full Model: SAS Stepwise Procedure Satisfaction Variables and Intent to Re-enroll 111

18. Analysis of Variance--Comparison of Differences Between Ethnicity, Gender, and Ethnicity*Gender: Expectation 112

19. Significant Expectation Variables and Gender Interaction 114

20. Significant Expectation Variables: Ethnicity*Gender Interaction 115

21. Ethnic Interaction: Significant Satisfaction Variables 115

22. Analysis of Variance--Comparison of Differences Between Ethnicity, Gender, and Ethnicity*Gender: Satisfaction 117

LIST OF FIGURES

Figure Page

1. Conceptual Framework Theories--
Student Retention 48

CHAPTER 1

INTRODUCTION

Background of the Problem

Retention of university and community college students has historically been a concern and continues to be an issue among the American higher education community (Astin, 1993b; Cope & Hannah, 1975; Noel, Levitz, & Saluri, 1985; Tinto, 1993). During the 1990s higher education institutions, in part due to changing student demographics and a decrease in numbers of available college age students, intensified efforts to identify reasons for students voluntarily choosing to leave college before graduation (Braxton, 2000).

Collectively, higher education enrollments, following a decrease during the 1990s, are predicted to increase by more than two million students during the first fifteen years of the 21st century, with Hispanic, African American, and Asian American students representing 80% of the overall growth (Carnevale & Fry, 2000). Compared with the general student population, minority students have historically experienced a lesser degree of success graduating from college (U.S. Department of Education, National Center for Education Statistics [NCES], 1997).

To an even greater extent, Hispanic students, in spite of their increased enrollment numbers and participation in university and community college programs, have not shown a corresponding increase in graduation rates (NCES, 1997). Nor have other research studies or institutional data reported substantial improvements of students making progress toward completion of their educational goals, i.e., graduation from college (Flores, 1992, 1994; Liu & Liu, 1999; Ting, 1998).

Research studies have identified an array of factors or variables that contribute to, or influence students' decisions to enroll in college, persist in college once enrolled, or leave college before accomplishing their intended educational goals (Astin, 1993b, 1997; Bean, 1980; Braxton, 1999, 2000; Braxton, Sullivan, & Johnson, 1997; Spady, 1970; Tinto, 1975, 1987, 1993). While persistence in college is a matter of what a student does once they are enrolled in college, Anderson and McGuire (1994) posit that "The best predictor of student persistence in college is the student's own motivation and desire to persist" (p. 1).

Individual student attributes or characteristics, those identified as contributing to students voluntarily leaving college, are often a combination of environmental influences including; demographic, socioeconomic, cultural, family, and personal motivations (Avalos & Pavel, 1993; Blanca, 1989; Braxton, 2000; Cannady, 1973; Clark-Tolliver, 1996; Levin & Levin, 1993; Lillibridge, 1992; Rendón, 1995; Tinto, 1993). Student attributes such as academic ability, race, ethnicity, and gender have been isolated as key indicators of student persistence in college (Tinto, 1975; 1993). Individual attributes, while proven to be powerful influences on students' abilities to persist in college, are typically those over which the institution has little control.

Beyond the influences of individual attributes, student interactions on college campuses have been shown to influence student persistence. Institutional variables, those associated with college services, policies, procedures, student support services, and interactions with faculty and staff, have been identified as contributing to, and influencing students' decisions whether or not to persist in college (Astin, 1993b; Noel et al., 1985; Tinto, 1993). Institutional variables are those developed, implemented, and controlled by the institution. Examples of these are written policies and procedures, rules and regulations, student support services such as advising, registration, counseling, financial aid, and student interactions on campus with faculty and staff. Collectively, institutional variables contribute to the educational environment and organizational culture unique to each higher education institution.

In part, because of increased calls for accountability from local governing boards and state legislative agendas, higher education institutions including community colleges, have become more reliant upon institutional data to identify problem areas that may negatively affect student retention and college graduation rates (Cohen & Brawer, 1996). The interest among higher education communities to improve their students' college campus experience, through identification of factors associated with student satisfaction, and those related to students' performance outcomes, has also increased with the changing student demographics (Astin, 1993b). Particularly with the projected increase of college age minority students, who have historically been under-represented on college campuses, higher education institutions will increasingly rely on their institutional research offices for data and information concerning their student's successes.

Statement of the Problem

Revealing research has studied and analyzed the nature of student retention, particularly among the traditional university student population (Anderson, 2001; Astin, 1993b; Braxton, 2000; Cope & Hannah, 1975; NCES, 1997, 1998, 1999; Noel et al., 1985; Tinto, 1993). While similarities exist in higher education retention study findings among the traditional university residential student populations, there have been limited studies conducted to examine the dynamics of student retention of minority students, particularly those enrolled in community colleges.

A dearth of research exists with a focus on institutional variables and how these may be influencing student satisfaction of Hispanic students enrolled in community colleges. Evident in previous studies is the recognition that institutional variables do influence students' decisions to remain enrolled in college. The need goes beyond the identification of institutional variables that contribute to student persistence and satisfaction with the institution. The need extends throughout the higher education institution's organizational structure to learn how to develop strategies that may be used to increase the retention and success of a growing Hispanic student population; one that is choosing community colleges as a predominant pathway into higher education (Carnevale & Fry, 2000; Patton & Phillippe, 2000).

Additionally, researchers have conducted limited studies in community colleges serving a majority of Hispanic students. Specifically, studies have not been performed in Hispanic-Serving Institutions as designated by the U.S. Department of Education (White House Initiative on Educational Excellence for Hispanic Americans, 2001).

Purpose of the Study

The study investigated and examined the relationship of institutional variables; i.e., those factors students associated with and interacted with while attending a community college, and compared these to their reported level of expectations and satisfaction with the institution. Further inquiry examined the potential influence these variables may have had on students' decisions to remain enrolled at Doña Ana Branch Community

College, a two-year branch campus of New Mexico State University, Las Cruces, New Mexico. Additionally, it was posited the study would provide new insight into the types of institutional services and programs that are important to students while enrolled at Doña Ana Branch Community College.

Historically, Doña Ana Branch Community College's retention rate for first-time students, from Fall to Fall semesters, has averaged 29% (Lillibridge, 2001). Data collected for the study could provide a base-line for future studies of Doña Ana Branch Community College students. If the community college chooses to conduct ongoing studies, the data generated from the study could be used as a benchmark for comparison of data collected from this cohort and similar student cohorts in the future. Specific purposes of the study include the following:

1. To examine the relationship between student expectations and levels of student satisfaction with the institution.

2. To examine if there was a difference in students' expectations of institutional services, policies, procedures, and staff, compared to their reported

satisfaction with the institutional services, policies, procedures, and staff.

3. To identify which institutional variables may have positively influenced students' decisions to remain continuously enrolled at Doña Ana Branch Community College.

4. To compare the level of student expectations and level of satisfaction of Hispanic and non Hispanic White students, men and women, and the interaction between ethnicity and gender.

The principle objective of the study was identification of institutional variables that may have positively contributed to students' satisfaction with the college, and if these variables influenced their decisions to remain in college. Community college administrators and policy decision makers may use the findings to revise, improve upon, and/or create new curricular offerings, educational programs, and student support services.

Outcomes of the study may provide an impetus for Doña Ana Branch Community College leaders to: (1) improve the quality of their institutions' learning environment, while transforming the organizational culture of the institution, and (2) improve student retention resulting in accomplishment of students' educational goals, including improved graduation rates, of both Hispanic and non Hispanic White students at Doña Ana Branch Community College.

Assumptions of the Study

The following assumptions were made in planning and designing the research study:

1. The influence of institutional factors and reported levels of student satisfaction with those factors, as reported by the students, will be representative of the Doña Ana Branch Community College student body.

2. The identification and examination of institutional factors will contribute to an increased understanding of the influences student satisfaction may have in retention of community college students.

Research Questions

There are five comprehensive research questions guiding the study.

Research Question 1.1

Is there a relationship between Doña Ana Branch Community College students' overall expectations of their college experience, and, their overall satisfaction with those experiences?

Research Question 1.2

Is there a relationship between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables?

Research Question 2.1

Is there a difference between Doña Ana Branch Community College students' overall expectations of their college experience, and, their overall satisfaction with those experiences?

Research Question 2.2

Is there a difference between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables?

Research Question 3

Which combination of the twelve clustered institutional variables most positively influences students' decisions to remain enrolled at Doña Ana Branch Community College?

Research Question 4

In comparing the level of student expectations of institutional variables, is there a difference between;

a. Hispanic and non Hispanic White students,
b. men and women students, and
c. the combination of ethnicity and gender?

Research Question 5

In comparing the level of student satisfaction of institutional variables, is there a difference between;

a. Hispanic and non Hispanic White students,
b. men and women students, and
c. the combination of ethnicity and gender?

General Research Hypotheses

The general research hypothesis being tested in the study includes the following:

Research Hypothesis 1.1

A relationship exists between Doña Ana Branch Community College students' overall expectations of their college experience, and, their overall satisfaction with their experiences.

Research Hypothesis 1.2

A relationship exists between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables:

a. Academic advising and counseling effectiveness
b. Academic services
c. Admissions and financial aid
d. Campus climate
e. Campus support services
f. Concern for the individual
g. Instructional effectiveness
h. Registration effectiveness
i. Responsiveness to diverse populations
j. Safety and security
k. Service excellence
l. Student centeredness

Research Hypothesis 2.1

A difference exists between Doña Ana Branch Community College students' overall expectations of their college experience, and, their overall satisfaction with those experiences.

Research Hypothesis 2.2

A difference exists between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables.

Research Hypothesis 3

At least one clustered institutional variable will influence students' decisions to remain enrolled at Doña Ana Branch Community College.

Research Hypothesis 4.1

A difference exists in students' expectations of institutional variables between Hispanic and non Hispanic White students.

Research Hypothesis 4.2

A difference exists in students' expectations of institutional variables between men and women.

Research Hypothesis 4.3

Interaction exists between students' ethnicity and gender and students' expectations of institutional variables.

Research Hypothesis 5.1

A difference exists in students' satisfaction of institutional variables between Hispanic and non Hispanic White students.

Research Hypothesis 5.2

A difference exists in students' satisfaction of institutional variables between men and women.

Research Hypothesis 5.3

Interaction exists between students' ethnicity and gender and students' satisfaction of institutional variables.

Significance of Study

The literature identifies numerous variables that contribute to, and influence students' decisions to enroll in college, persist in college once enrolled, or leave college before accomplishing their educational goals. Previous studies have focused efforts in prediction of students at-risk of dropping out or have limited study participants to those that had already dropped out and were no longer attending college. Limited research has been conducted dealing with community college student retention issues. In particular, studies have not revealed the impact institutional services, policies, procedures, and interactions with faculty and staff may have on student persistence within a predominantly Hispanic-serving community college.

The study gathered information about the perceptions of continuously enrolled students' and their level of satisfaction, with their community college experiences. The study also examined the level of expectations and satisfaction of first-year Hispanic and non Hispanic White students, men and women, and the interaction between ethnicity and gender.

Delimitations

Data collected for the study was limited to a student cohort from a publicly supported Hispanic-Serving Institution; Doña Ana Branch Community College. Doña Ana Branch Community College, a branch campus of New Mexico State University, is a publicly supported two-year community college in Las Cruces, New Mexico. The U.S. Department of Education has designated Doña Ana Branch Community College as a Hispanic-Serving Institution, one that meets the criteria of having high enrollments of needy students, low educational and general expenditures, and enrollments of 25% or more undergraduate Hispanic full-time equivalent students (White House Initiative, 2001).

A student satisfaction questionnaire was administered to all currently enrolled Doña Ana Branch Community College students who initially enrolled during the Fall 2000 semester. Only first-time students, who remained continuously enrolled through Spring 2001 and Fall 2001 (excluding summer session enrollments), were eligible to participate in the study. Students selected for participation in the study were initially admitted to Doña Ana Branch Community College and had enrolled either full-time or part-time.

Definition of Terms

To assist the reader, terms and concepts used in the study are operationally defined below.

Community college. Any two-year post-secondary institution that is regionally accredited to award the Associate in Arts or the Associate in Science degree as its highest degree (Cohen & Brawer, 1996; Vaughan, 2000). Curricular offerings may include technical or occupational courses and general college studies. Included in the definition are comprehensive two-year colleges and technical institutes, both private and public (Cohen & Brawer, 1996)

Hispanic. A person of Cuban, Mexican, Puerto Rican, Central or South American, or other Spanish culture or ethnic origin regardless of race (Ramirez, 1996; U.S. Department of Commerce, 2001). In the national context Hispanic may refer to any or all of the members of the various Hispanic subgroups, irrespective of race (Dexter, 1992).

Hispanic-Serving Institutions. Public or private, nonprofit, accredited and degree granting post-secondary educational institutions. The U.S. Department of Education recognizes a Hispanic-Serving Institution as an institution with at least 25% full-time equivalent undergraduate Hispanic students. Additionally, the institution must also have a high enrollment of needy students, low educational and general expenditures, and at least 50% of Hispanic students must be of low-income (White House Initiative on Educational Excellence for Hispanic Americans, 2001).

Persistence. Webster's Collegiate Thesaurus (1988) defines persistent as "continuing in a course of action without regard to discouragement, opposition, or previous failure" (p. 549). Students who persist in college remain continuously enrolled in college, without interruptions, until they have attained their educational goals, typically staying until they have graduated.

Retention. Retention is the by-product or result of college programs and services that contribute to student success and persistence toward attainment of educational goals (Noel et al., 1985).

Retention rate. The percentage of credit students, either full or part-time, enrolled during Fall 2000, compared to the number of credit students having remained continuously enrolled (excluding summer sessions) through the official Fall 2001 college enrollment census date.

Student Satisfaction. The Oxford Dictionary and Thesaurus (1996) define the verb, satisfy to "meet the expectations or desires of" and the noun, satisfaction as "a thing that satisfies desire or gratifies feeling" (p. 1340). Student satisfaction occurs when expectations have been met or exceeded, as reported by the student's perception of their college experiences (Bryant, 2001; Schreiner & Juillerat, 1993).

Summary

Retention of students, particularly minority students, enrolled in higher education institutions has increasingly become a concern of college administrators and faculty. In response, higher education institutions have been seeking improvements to campus educational services and programs to increase student retention and graduation rates. Previous student retention studies have identified and examined various individual and institutional variables that have contributed to and/or negatively influenced students' decisions to remain in college.

Through the administration of a student satisfaction questionnaire, students self-reported their level of expectations for institutional services, policies, procedures, programs, and staff, and their level of satisfaction with their college experiences at Doña Ana Branch Community College. The study further examined and focused on the influences of institutional variables on students' decisions to remain enrolled at the community college.

Chapter two reviews the research literature linked to student retention in higher education. The effects of individual characteristics and institutional variables on student retention, and student satisfaction with their college experiences are reviewed therein.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

During the next fifteen years American university and community college student enrollments, including both private and public institutions, are predicted to grow by 19%, or an equivalent of 2.6 million students (Carnevale and Fry, 2000). Conversely, from 1988 to 1995 college campuses experienced, for the first time in higher education, a decrease in the number of students enrolling in colleges and universities (Luna, 1999). As reported in an Educational Testing Service study, Carnevale & Fry (2000) projected total higher education undergraduate enrollments to exceed sixteen million students by 2015. As the number of students qualified to attend universities and community colleges increase, minority student enrollments are expected to increase exponentially.

A major change has occurred in the higher education student population over the past two decades. Campuses have become more racially and ethnically diverse with minority enrollments growing at a faster rate than non Hispanic White students. Representation of minorities in higher education increased from 17% in 1982 to 29% in 1995 (U.S. Department of Education, National Center for Educational Statistics [NCES], 1999). Minority student enrollments are expected to grow from 29% of the overall undergraduate population in 1995 to 37% in 2015 (Carnevale & Fry, 2000). During the same period demographic data analyses suggest Hispanic students will realize the largest absolute gain, adding one million undergraduates to higher education campuses (Carnevale & Fry). A challenge higher educational institutions face, given these projections, will be meeting the needs and expectations of an expanding student population, one that has been and is increasingly more diverse.

Challenges and Issues

Changes in the workplace, and in an increasingly competitive marketplace, are placing additional emphasis on the preparation of students for technical and professional careers (National Alliance of Business [NAB], 2001). Job readiness, including strong academic and technical skills, needed for professions once hired with a minimum of a high school diploma, now require higher levels of education and training. With a growing student population and one that will become more culturally, ethnically, and socially diverse, students must be able to demonstrate their readiness for higher education. Once enrolled they must be able to meet high expectations of college and their future employers (NAB).

Colleges and universities also face challenges recruiting and retaining students in a highly competitive marketplace (Reisberg, 1999). With the changing demographics in the United States, during the 1990s, particularly the decrease in the number of traditional college age students, and with the growing diversity of students pursuing post-secondary education, higher education institutions have expanded efforts to recruit new students (Lords, 2000). Students also became more selective in choosing their higher education institutions. Increased competition for students from both public and private higher education institutions, and proprietary schools, combined with the rising costs of attending post-secondary education have made colleges more aware of the diverse needs and expectations of emerging student bodies (Lords).

Public higher education institutions have begun to realize the need to be more responsive to students' needs and expectations in order to attract and keep them in college (Levitz & Noel, 2000a). Higher education institutions have been working to attract students that have become more sophisticated, yet, demanding consumers. Students have also become more results oriented in their selection of colleges and want to know the outcomes and benefits of having attended a particular institution (Bryant, 2001).

Research provides insight into the dynamics of students enrolled in higher education systems today. General findings, about college student behavior, indicate that student dropout occurs when costs become greater than perceived benefits. The most frequent reason students' give for dropping out is uncertainty about what to study while 45% of students arrive to college not expecting to be satisfied with their experience (Bryant). The majority of students who fail to graduate from college are not dismissed for lack of academic progress (Tinto, 1993). More so, they leave because of dissatisfaction, disillusionment, discouragement, and reduced motivation than ability or having been dismissed for poor grades (Anderson, 2001).

Student Retention Issues in Higher Education

Among the most important issues in higher education today are developing strategies for improving student retention. The problems and issues associated with low student persistence and high attrition, i.e., those students leaving college without having achieved their higher education goals, have been the focus of empirical inquiry for the past seventy five years (Braxton, 2000). Yet, substantive changes and improvements to help keep students in college have been largely unsuccessful for many higher education institutions (Astin, 1975, 1993b, 1997; Bean, 1980; Braxton et al., 1997; Braxton, 1999; Spady, 1970; Tinto, 1975, 1987, 1993).

Students leaving college, before completing degree requirements for graduation, continue to be a growing concern of scholars and a focal point of effort for improvement of most higher education institutions. Results of longitudinal studies conducted by the U.S. Department of Education; National Center for Educational Statistics, provide important information about student participation in higher education. A 1997 National Center for Educational Statistics study revealed trend data about the nature and movement of students in higher education systems, both two and four-year institutions. Data collected and analyzed for a cohort group of first-time students attending higher educational institutions, from 1989 through 1994, revealed that students have not successfully matriculated from high school, through college, and onto graduation in a timely, systematic manner (NCES, 1997).

Attrition in Higher Education

An NCES longitudinal study of 1989-90 students revealed that 29 percent of undergraduates left college during their first year. A greater percentage left two-year colleges compared to four-year institutions (NCES, 1999). For those returning the second semester, one fourth of them did not return the following year. Forty-five percent of first-time students completed a bachelor's degree in four years, while more than 40% of all first-time students entering American higher education institutions failed to earn a degree (NCES).

In two-year colleges, 42% of the student population left during their first year or failed to re-enroll the following year. Of those students, 24% completed an associate's degree in four years (NCES). Supporting data from the 1999 National Center for Educational Statistics cohort study revealed that 60% of public community college enrollments are first-generation students, with approximately 70% of them attending on a part-time basis (NCES). Barriers identified by the

National Center for Educational Statistics study (1997), contributing to student attrition, were linked to students' socioeconomic status and their parents' level of educational attainment.

Colleges and universities have responded in recent years to the growing problem of student attrition by developing student retention strategies and programs. Expanded student orientation sessions, tutoring and developmental education, improved advising, peer mentoring, and freshman seminars represent examples of recent initiatives undertaken by various higher education institutions to improve upon student retention at their campuses (Upcraft, M., Gardner, J., & Associates, 1989). Brawer (1996) states that intervention strategies represent the most appropriate way of approaching retention and attrition, and provides the best long-run solutions. Tinto (1996) maintains there have been a limited long-term impact or lasting results from increased developments in related retention programs. Tinto postulates there are many reasons for the lack of results, but the most important one is due to an omission by institutions to change the quality of the academic experience for students, particularly during the first year of college.

Community college campuses have been characterized as more responsive to students' needs, providing personalized assistance through various student service functions, academic programs, and through interactions with faculty and staff (Cohen & Brawer, 1996). Yet, in spite of the many services and good intentions of community colleges to assimilate students into their culture, student attrition rates have proven to be consistently worse than university students (NCES, 1997; 2000).

Retention in Higher Education

With passage of the Federal Student Right-to-Know and Campus Security Act (U.S. Public Law, 1990), institutions of higher education are required to publish data that provide measures of performance of their educational programs. The law requires institutions to "disclose information about completion or graduation rates" (U.S. Public Law). The language of the law was written with the intent to provide consumers information to better assist prospective students, parents, and school counselors in making informed decisions about which institution a student may wish to attend. Astin (1997) interpreted the law as one implying that "institutions with high retention rates are presumably doing a "better" job retaining their students than are institutions with lower rates. In other words, the prospective student is being encouraged to avoid institutions with low rates and to prefer institutions with high rates" (Astin, p. 648).

Retention in higher education systems has commonly been recognized and defined as a core institutional performance indicator (Astin, 1993a). As a result, retention has also been closely linked with measures of student growth and how much learning has taken place (Noel et al., 1985). The accepted assumption in higher education is that students who persist in their college studies will therefore continue to grow and expand their knowledge, and assume greater responsibility for their own education (Noel et al.).

Retention can also be defined as a measure of how valued and respected students feel, and how effectively the college campus delivers the services and programs students expect, need, and want out of their experience (Noel et al., 1985). Noel et al. contend that re-enrollment or retention is not, nor should be, the goal of higher education. Retention of students will occur naturally because of, or as a by-product of, improved programs and services, and interactions with faculty and staff on campus, that will ultimately impact upon student success (Noel et al.).

Student Departure from College

Traditional, first-time university undergraduate students, i.e., those entering college immediately following graduation from high school, have historically been the focal point of higher education student retention studies conducted by many researchers (Astin, 1975, 1993b, 1997; Bean, 1980; Braxton et al., 1997; Braxton, 1999; Spady, 1970; Tinto, 1975, 1987, 1993). Higher education student cohort studies conducted by the National Center for Educational Statistics since 1976, and the Educational Testing Service (2000) has also contributed a great deal to the identification of characteristics and habits of college students.

The 2000 National Center for Educational Statistics cohort study, spanning a 30-year period, revealed that students' persistence in college was often interrupted or disrupted due to a variety of circumstances. Students entering college arrive with a host of aspirations and motivations for attending. They also possess individual needs and expectations, and enter college having achieved various levels of academic readiness, knowledge, and skills (NCES, 2000). Once enrolled students may choose to leave college for a variety of reasons, both voluntary and involuntary. Some leave because of pressures external of the institutional environment while others leave because of a lack of support by the institution (Reisberg, 1999). Studies reveal that students leave college before graduation, not due to a lack of academic progress or poor grades, but more so as a result of an array of personal reasons and a lack of connectedness or positive interactions with the institution (Reisberg; Tinto, 1993).

A student retention study conducted by Sadler, Cohen, and Kockesen (1997) at New York University suggested that a combination of student retention factors influenced students' decisions to remain enrolled during their first semester of college. The goal of the study was to develop several statistical models that could be used during the freshman year to predict which students would be at-risk for withdrawing from college, with the intent to predict and intervene before students dropped out of college. The three models used in the study focused on the role of student attributes prior to enrolling in college, and institutional experiences students encountered throughout the first semester of college. Student cohort data were collected before enrollment, at midterm, and at the end of the semester. Retention variables analyzed were grouped into six general categories; family background and individual attributes, pre-college schooling, first-term academic integration, first-term social integration, first-year finances, and institutional commitment. Sadler et al. (1997) retention model suggested that students' decisions whether to remain in college, or not, was influenced by a combination of attributes interplaying concurrently during the first semester.

Tinto (1996) has identified seven broad categorical causes for student departure from college. Tinto outlined the following identifiers that have been most commonly associated with student departure research:

1. Academic difficulties in maintaining minimum institutional standards

2. Inability to make the transition from high school to a demanding college environment

3. Lack of clarity and focus in establishing personal goals

4. Unwillingness to expend the time and effort necessary or external commitments pulling students away from college

5. Inadequate financial resources

6. Feelings of not belonging socially or academically and,

7. Feeling isolated from students or faculty.

Confusing the dilemma of student departure from college are data sources used in retention studies. Different data sources may yield different results, thus contributing to the student departure puzzle. Herr (2001) conducted a study at Ohio State University and developed statistical models to test singular data sources and combinations of data. Data sources accessed for the study included: admissions files, end-of-term data, and 5 different student surveys providing information with high school student profiles, freshman and college student inventories, and a student satisfaction questionnaire.

Herr's persistence model, combining all data sources for new entering university students, showed that student persistence could be explained by or was attributable to several statistically significant variables. Variables found to contribute most to predictions of student persistence included:

1. Student's high school rank
2. The date of application to the college
3. Student's self-initiated contacts with the college and,
4. Self-reported hours per week the student planned to study during their first year.

Herr also designed the model to incorporate all entering, and end-of-term student data sources to test for variances in student behavior after enrollment for the first term but prior to the second enrollment term. Variables found to contribute most to student persistence, after one semester, were associated with the following items:

1. A combination of students' actual grade point average and their self predicted grade point
2. The average total number of hours registered for at the enrollment census date and,
3. The number of hours registered for during the semester.

Student Satisfaction

Many higher education institutions have overlooked the degree to which student satisfaction can influence the overall college experience and the impact it has on student outcomes (Astin, 1993b). Student satisfaction is a broad area covering student's subjective experience during their college years and perceptions of the value of that experience. Levitz and Noel (2000a) stated that the most successful colleges and universities are those that view themselves as active participants and contributors to their student's intellectual, personal, and social growth.

In recent years, there has been a growing interest among the higher education community to improve upon the student college experience, through identification of institutional factors associated with college satisfaction, and those related to students' performance outcomes or persistence to graduation (Astin, 1993b). Astin's findings, in his 1993 study of university undergraduates, are particularly relevant for administrators and policy makers. Astin's study indicates that students' levels of satisfaction, their performance outcomes, and persistence to graduation were impacted by three influences:

1. The type of institution attended
2. Patterns of resource utilization and,
3. The campus "climate" (Astin, p. xii).

Campus climate was defined as the cumulative effect of institutional factors that impacted upon students' feelings about their college.

Prior to the 1960s, only one student satisfaction study existed (Berdie, 1944), while studies of student retention focused on characterizations of dropouts, typically the academically under-prepared student (Noel, 1994). Dissatisfaction and withdrawal from college were considered a function of a student's shortcomings rather than the institution's (Juillerat, 1995).

Students' perceptions about the value of their college experience, given the time and effort most students make while attending college, should be given greater weight (Astin, 1993b). Student persistence in college toward accomplishment of educational goals is a key indicator of student satisfaction and success (Levitz & Noel, 2000b). Astin states "it is difficult to argue that student satisfaction can be legitimately subordinated to any other educational outcomes" (p. 273). Astin's (1993b) student satisfaction study was consistent with his earlier research studies (1977), which suggested that the college experience is much less dependent on entering student characteristics or attributes, than on other outcomes, and was influenced more so by the college environment.

How colleges and universities interact with students, from initial contact with personnel, to accessing institutional processes, continuing through registration and enrollment, and onto graduation, will vary by the type of college, and the background of students attracted to a particular higher education institution. Astin (1985) characterized the traditional university environment as one that is non-intrusive. In this perspective, the traditional university organization provides and makes available services, programs, and classes, for the self-initiated student to choose from. Whether they choose to access or actively seek out available college resources is the student's, not the institution's responsibility. The typical institution remains non-intrusive or passive until students choose to become involved with the college. Students are essentially left on their own to determine the value of various college experiences and to connect with their environment (Levitz & Noel, 2000a).

Astin's (1993b) research indicates that student outcomes are linked to the effectiveness of undergraduate education. It is not so much the institution that limits opportunity for student success, although different types of institutions tend to have different environments, but what really seems to matter is the environment or climate created by the faculty and students (Astin). Results of Astin's study indicated that students' highest levels of satisfaction, while attending college, were associated with the following items:

1. Courses in their major
2. Their opportunities to participate in extracurricular activities
3. Personal interactions with their professors and,
4. The overall college experience.

The lowest level of student satisfaction dealt with regulations governing campus life and essentially all student support services such as academic advising, financial aid assistance, career counseling, and job placement services (Astin). Crockett links academic advising to increased student satisfaction and maintains it provides an excellent opportunity for development of one-on-one relationships between faculty, staff, and students (1985). Campuses that have developed processes to improve active advising processes, in turn, have actively drawn in and made available to students other institutional resources that the college offers (Noel et al., 1985).

Student Characteristics and Institutional Variables

Retention studies have shown differing combinations of factors or variables influence students' decisions to persist in college. Students' decisions to drop out of college are usually complex decisions, ones that are the result of a combination of variables (Noel et al., 1985). Researchers have conceptualized and posited many theories studying specific variables that influence students' persistence and whether a student will remain in college until graduation. Results of these studies indicate there are two general categories of retention variables:

1. Those associated with student characteristics, i.e., that the student brings with them prior to entering college and,

2. The interactions between a student and the institution prior to enrollment, and during their tenure at the institution (Astin 1993b; Astin, Green, & Korn, 1987; Mutter 1990; Tinto 1975, 1987, 1993).

Student Characteristics

Student characteristics have proven to be important indicators and predictors of student retention. Students enrolling in universities and community colleges arrive with a variety of expectations, and diverse educational backgrounds, knowledge, skills, and abilities (Tinto, 1975). To achieve in college students need motivation and aspiration more than anything else (Pascarella & Terenzini, 1991). Yet, the dynamics of student characteristics have been shown to influence whether a student will be successful in attainment of their educational goals (Tinto, 1993). In Tinto's model of student retention, student entry characteristics such as pre-college schooling experiences, family background factors, and individual attributes will play a role in the college student departure process (Braxton, 2000). Family background characteristics include the socioeconomic status of the family, parental expectations for the student, and parental educational levels. Pre-college schooling experiences include the student's record of high school achievement and characteristics of the student's secondary school. Student attributes identified by Tinto (1975) are academic ability, race, and gender.

Astin (1975) isolated several reasons for students dropping out of college in the 1970s. Students stated that they were bored, were distracted with non-academic responsibilities, had difficulties concentrating, and did not complete homework assignments. In the 1980s additional studies of university freshmen, who dropped out, reported they did not have a clear career goal and were uncertain about what to study (Noel et al., 1985). In the 1990s retention studies indicated that the singular best predictor of academic success in college was prior academic performance in the K-12 education system (Herr, 2001; Ting, 1998).

Rendón (2001b) identified students most at-risk of leaving college, through pre-college individual characteristics; students who earned low grades in high school, those that spent little time on homework, students who failed to complete a college-prep course sequence, students that grew up in poverty, and students' perceptions that they can attain college goals with low high school achievement. Rendón found that students most at-risk of leaving college, once enrolled, tended to be those that:

1. Were not continuously enrolled

2. Had their studies interrupted for more than one year

3. Attended college part-time

4. Were married with family obligations

5. Were first-generation college students

6. Were in need of financial aid

7. Worked off-campus

8. Lacked encouragement and support from family and friends

9. Experienced difficulties with the transition to college

10. Were not involved or did not know how to get involved

11. Had been out of school for some time

12. Were afraid or felt out of place in college or,

13. May have taken evening classes when few or no services were available.

Molnar (1996) investigated student retention factors having gathered data from more than 3,000 students enrolled in a private comprehensive university. Results provided evidence that students' first semester grade point average was the primary indicator of and had the greatest influence in predictions of student retention. Zhang and RiCharde's study (1998) found three reasons for freshman attrition during the first few weeks of the first-year college experience. Those identified to be statistically significant predictors of student persistence were associated with:

1. Students' inability to handle stress,

2. Mismatches between personal expectations and college reality and,

3. A lack of personal commitment to a college education.

Institutional Variables

Student pre-college characteristics have been shown to directly influence a student's commitment to college and toward the goal of graduation (Tinto, 1975). Beyond the student characteristics associated with retention, the degree to which a student commits to an institution and toward their goal of graduation, in turn, affects their degree of integration into the academic and social systems of the college or university (Tinto 1975, 1993). Researchers have generally accepted Tinto's initial retention model (1975) as an explanation for student retention in higher education, and it has been widely tested since its introduction in 1975 (Bean, 1980;

Braxton, 2000; Naretto, 1995; Pascarella & Chapman, 1983; Pascarella & Terenzini, 1980).

Naretto (1995) studied the influences of student membership in communities both internal and external of the college environment. The source of Naretto's study was Tinto's 1987 book *Leaving College* that maintains student academic progress toward graduation is in large part dependent upon students' membership in a supportive community. Naretto's study found that persisters responded positively about their relationships and interactions with individuals in the college community. Naretto's study also suggested that socialization, or connections with the campus community, which creates a sense of campus climate, is not only important, but is a critical factor in adult degree completion. Roueche (2001) maintains that the climate of the institution is critical in retaining students and their resultant success. Hiring the right faculty and staff who have a focus on students first, combined with good academic policies and procedures, are essential to student success (Roueche).

Financial assistance to attend and remain in college has often been cited by students as a primary reason for dropping out of college (Rendón, 2001b). A study conducted by Schoolcraft College (1995) revealed that students did not return from one semester to the next due to several internal factors. The most important reason students did not return after one semester was reported as the lack of financial assistance made available to them by the college.

Student Retention Theories

Student Involvement Theory

A student's college experience, their successes and outcomes, can be increased through active engagement in a variety of college life (Gardner, 1990). Astin's (1985) theory of student involvement is grounded in psychoanalysis and classical learning theory. The theory of involvement is focused on the students' commitment to their educational success. Astin describes involvement as the quantity and quality of the physical and psychological energy a student devotes to their academic experience. Astin implores educators to focus their efforts less on what they do and more on what the student does in the classroom and on-campus (Astin). The characteristics of a traditional college campus are reflective of the involvement theory. In this sense it is the students' responsibility to access assistance, services, and support of the institution. Students must actively seek out help, on their own, in order for support to be made available to them. Involvement occurs along a continuum. The amount of student success in college is directly proportional to the quality and quantity of student involvement with the institution (Hundrieser, 1999; Astin, 1985).

The concept of Astin's involvement theory infers that students are more likely to have a positive college experience by becoming involved in the college or university (Hundrieser, 1999). A strong interaction between students and faculty can create a positive experience for students (Astin, 1993b). The cumulative effect of college on students' abilities to be successful in college is not a singular experience but a culmination of experiences that will support students through graduation (Hundrieser; Hernandez, Hogan, Hathaway, & Lovell, 1999). Cross (1998) reinforces research evidence (Astin, 1985) that shows students who get involved with college staff and activities will demonstrate higher retention rates than students who limit their participation to only formal classroom learning experiences.

Student Interactionalist Theory

Tinto's 1975 Interactionalist Theory of college student departure provided a construct for contemporary empirical studies and has been considered foundational in the study of college student retention (Braxton et al., 1997). Tinto's original theoretical model has been modified only slightly since 1975, while expanding upon his theoretical stances in 1987 and 1993 (Braxton, 2000). The Interactionalist theory postulates there are several key indicators of student retention in higher education. Tinto maintains there are many dynamic factors and processes students encounter while they are integrating into an institutional environment, both academic and social systems (Tinto, 1975, 1987, 1993).

Students possess an array of individual characteristics entering colleges that encompass students' pre-college attributes such as race, gender, and ability levels, family background characteristics and parental education attainment, and pre-college educational experiences measured by a student's high school academic achievement. Tinto (1993) states those entering student attributes directly influence students' initial commitments to the post-secondary institution and contribute to students' decisions to stay in college or leave. Students' personal goals, their motivations for attending, and personal commitments prior to entering college, as well as their experiences, both socially and academically while in college, and their active participation and engagement within the college culture, will in turn, affect a student's degree of integration into the academic and social systems. In combination, these factors contribute to influence students' decisions to stay in college or leave prior to completion of their educational goals (Tinto).

Model of Validation Theory

Rendón (2001a, 2001b) maintains that colleges and universities must transform their campuses, creating a culture of caring and success, to reduce student attrition. In Rendón's theory of Validation, students are thought to be best supported by providing an array of services and systems that will, in turn, assist them in making connections with the college. The validation model is an enabling, confirming, and supportive process initiated by in-class and out-of-class agents that enhance academic and personal development of students (Rendón & Jalomo, 1995). Institutional agents or validating agents, such as, faculty, counselors and advisors, tutors, teaching assistants, and administrators, reach out to students helping them make connections with the college. Rendón's study (1995) of student persistence emphasizes a holistic approach to working with students. Rendón's qualitative research has been primarily focused on Hispanic student populations, but the impact of the validation theory could be applicable to and beneficial for the general college student population. Elements of the Validation model include creating an environment and culture of care and success, involvement, student support services, academic assistance, community involvement, validation, assessment, holistic teaching and learning communities, and faculty and staff development (Rendón, 2001a).

Figure 1 provides a conceptual scheme of the three research focus areas associated with student retention in higher education. Students' background preparation, motivations and goals prior to entering college, and the dynamics of college on students, once enrolled, have all been found to influence and affect student retention outcomes.

	Involvement Theory	Interactionalist & Validation Theories
Background Preparation	Prior to Entering College	Enrolled in College
Student demographics, H.S. grades, family background →→	Student motivations and goals →→	Integration into academic and social systems

Figure 1. Conceptual Framework Theories--Student Retention.

The American Community College

Community College Characteristics

The American community college system is unique in its mission, purpose, and philosophy that originated 100 years ago. **Today, there are more than 1,100 publicly supported community colleges, 400 private, and 200 proprietary institutions, enrolling more than 10 million students (AACC, 2001).** By definition a publicly supported community college is an accredited institution of higher education that awards the Associate of Arts or Science degree as its highest degree (Cohen & Brawer, 1996; Vaughan, 2000). The principle characteristics of community colleges that distinguish them from other higher education institutions are embedded in their core mission of providing accessibility for all students with a focus on teaching and community building.

The foundational principles, mission, and purposes of community colleges include the following:

(a) Accessibility for all students, with an open admission policy. Students are given opportunities to participate in higher education, while expecting to be treated fairly and provided availability of financial assistance for those that could not afford to otherwise attend college.

(b) Teaching and learning are core components of the community college system. Faculty and students are focal points in the mission of comprehensive community colleges.

(c) The publicly supported community college philosophy maintains tuition and fees that are low cost and affordable for students. Community college presidents, local governing boards, and state legislatures support and reinforce these philosophical underpinnings. The community college has its own culture that is reflective of their local communities.

(d) Support services for students are central to the community college organizational structure. Academic advising, financial aid assistance, job seeking and placement services, learning laboratories, library media centers, and other adult basic skill instructional support systems provide students with a wide variety of services.

(e) Comprehensive curriculum and collegiate course work are integral to community colleges. Students may need preparation studies in anticipation of transferring to a university, in order to complete their baccalaureate degree, or may need developmental classes to better prepare students for successful experiences in their academic classes. Occupational/technical programs leading to Certificates of Completion and/or an Associate of Arts, Science or Applied Science degrees make up the comprehensive community college curriculum (Cohen & Brawer, 1996).

(f) Lifelong learning is recognized as a primary mission of the comprehensive community college. Students may enroll continuously in either credit or non credit classes and programs to enhance their professional careers or enrich their personal lives. Community-based programs of study reflect the local needs of the community. Community education classes are offered based on community expectations for personal improvement or professional development.

Community College Students

Non-Traditional Student Profile

Community college students are not the typical 18-21 year old students traditionally found in residential four year universities. The community college student is distinguishable by demographic and personal characteristics (Cohen & Brawer, 1996). Community college students, in comparison to traditional university students, tend to be older with more women attending than men. The majority of students work while attending classes and come from diverse racial and ethnic backgrounds (NCES, 2000). Currently, ten million community college students are enrolled in more than 1100 U.S. Community Colleges. More than 4 million students attend classes part-time (AACC, 2001).

Approximately 45% of new first-time freshmen, and 49% of minority students, initially enroll in a community college. Fifty-one percent of community college students are first-generation students (Phillippe & Valiga, 2000). First-generation students are defined as the first person

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in their immediate family that have attended college (AACC, 2001).

The average age of a community college student is 32 years, 58% are women, while 70% are White non Hispanic, 11% African-American, 10.5% Hispanic, 4.6% Asian-American, and 1% Native American (Foote, 1997). National Center for Educational Statistics (1999) data revealed students aged 40 or older composed 16% of the community college population in 1997 up from 12% in 1993.

Phillippe & Valiga (2000) reported in a national study, cosponsored by the American Association of Community Colleges and ACT, Inc., that community colleges serve a diverse group of students who have exhibited a wide range of needs and goals, both personal and professional. More than 60% of credit students reported that their major reason for taking classes at the community college was to meet the requirements for their chosen occupation. Half of the 26-59 yr old students stated that making a career change was their major reason for taking classes, while 25% said a significant life change event was a compelling reason to enroll in the community college.

Non credit students, 40 years and older, were more likely than others to take classes for personal enrichment, while younger students were more likely to

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take classes for career-related reasons. Credit students indicated that their experiences, at the community college, contributed the most growth to increasing their academic competence and in learning skills needed specifically for their current or future job (Phillippe & Valiga, 2000).

First-Generation Community College Students

In general, community college students are non-traditional students; i.e., first-generation, attend part-time, work while attending classes, come from low socioeconomic backgrounds, and have poor to average high school achievement records (Rendón, 1995). First-generation students typically enter community colleges with gaps in their educational skills and knowledge. First-generation students often exhibit the following characteristics:

1. Lower educational achievement rates,
2. Possess poorer academic preparation and readiness skills,
3. Enroll with inadequate financial backing,
4. Have differing levels of support from families and friends,

5. Receive inappropriate advice from teachers and counselors, and

6. Come to college with undefined goals and unclear objectives (Rendón).

More than half of all public community college students are first-generation (NCES, 2000; Phillippe & Valiga, 2000). First-generation students come from homes where neither parent has attended a post-secondary educational institution. Students are often less well prepared for college than classmates from college educated families (Hsiao, 1992). First-generation students often encounter problems beyond the obstacles faced by other community college students. Community colleges consider first-generation students to be their primary clientele, who tend to be ethnic minorities, women, adults, and come from working class families (London, 1996). London identified two cultural challenges facing first-generation students--their friends and family, and, the community college itself. For a student, who is the first person in their family to go to college, the separation from friends, siblings, and family members, who have no prior experience in college, may cause them to feel non-supported and uncomfortable. Richardson and Skinner (1992) cited the lack of preparation as a challenge for first-generation students. Many of the students interviewed by Richardson and Skinner (1992) were not experienced in the economics of going to college, had little experience with or knew how to manage their time effectively, and found the impersonal nature of higher education institutions an obstacle to getting a degree. The experience with college, for first-generation students, is found to be intimidating and a culture shock.

Adult students also have problems beyond the culture changes, such as working while attending part time, helping take care of their kids, spouses, or other family members. Balancing conflicting responsibilities becomes a struggle for students making a commitment to attend college while continuing their lives outside the college arena.

Rendón (1995) posits two critical phases for first-generation students entering college; 1. making the transition to college and, 2. making connections in college. Making the transition to college often requires

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first-generation students to change their identity, take the risk of being perceived as different, separate from families and old friends, and live between two worlds (Zwerling & London, 1992; Rendón & Jalomo, 1995; Rodriguez, Guido-Dibrito, Torres, & Talbot, 2000; Terenzini & Others, 1993, 1996).

Making connections in college entails social and academic integration. Astin's theory (1985) of student involvement states that students who invest physical and psychological energy to become involved in the academic and social culture of the college will have greater potential for student success. First-generation students often do not have the self confidence or life skills to get involved easily.

Hispanic-Serving Institutions

Hispanic-Serving Institutions (HSIs) are defined as colleges and universities that are accredited and degree granting, public or private, nonprofit higher education institutions. Institutions must be designated eligible for Title V funding made available through the Hispanic-Serving Institutions program, and meet additional qualifications, to be defined as Hispanic-Serving Institutions. An HSI must have at least 25% or more total undergraduate Hispanic full-time equivalent student enrollment. Funded by the U.S. Department of Education, the HSI program was created to strengthen institutions and improve educational opportunities for Hispanic students attending college. The White House Initiative on Educational Excellence for Hispanic Americans, serving as an over-site agency, supports and promotes the role of HSIs in offering high quality educational opportunities to all students, and most importantly to Hispanic students.

Title V of the Higher Education Act (HEA) of 1965, amended in 1998, authorizes the federal HSIs program and applies additional criteria for specific eligibility. As stated in the Higher Education Act, "The purpose of this title is to: 1. expand educational opportunities for, and improve the academic attainment of, Hispanic students; and 2. expand and enhance the academic offerings, program quality, and institutional stability of colleges and universities that are educating the majority of Hispanic college students and helping large number of Hispanic students and other low-income individuals complete post-secondary degrees." (U.S. Public Law, 1998). A qualifying higher education institution must also have a high enrollment number of needy students where 50% of Hispanic student enrollments are of low-income. Additionally, qualified colleges will report low educational and general expenditure levels per full-time equivalent student enrollment (White House Initiative on Educational Excellence, 2001).

Statistics compiled by the White House Initiative on Educational Excellence, for 1998-1999, reported there were 203 higher education institutions that met program eligibility for designation as an HSI. HSIs are located in 12 states and Puerto Rico. Total Hispanic Full-Time Equivalent (FTE) enrollments for 1998-1999 were 412,189 students. California, Puerto Rico and Texas comprised 67% of all HSIs (136 institutions) in 1998. More than 80% of HSIs (158) had 30% or more Hispanic undergraduate FTE enrollment, one-half of HSIs (93) having 50% or more Hispanic undergraduate FTE enrollments. Nearly half of the HSIs were public two-year institutions. During the 1998 fiscal year, New Mexico had 17 eligible HSI institutions with 40% or 19,504 Hispanic FTE enrollments. Funding appropriations nationwide totaled $42.5 million for fiscal year 2000, with a total of 117 colleges participating. For fiscal year 2000, there were 78 new grants awarded, and 39 continuation grants were funded (White House Initiative on Educational Excellence).

Hispanic Student Enrollments

Hispanic students represented 10.5% of the total college-age undergraduate population in 1995, and are projected to increase to 15% or 2.5 million students by 2015 (Carnevale & Fry, 2000). Carnevale and Fry state that given the 73% increase in students, Hispanics will become "the country's largest college-going minority--accounting for about one in six undergraduates on campus in 2015" (p. 25).

Hispanic enrollment in undergraduate education has been concentrated in a relatively small number of colleges and universities. Approximately 40% of Hispanic undergraduate students are enrolled in fewer than 200 colleges and universities. In 1997, the majority of Hispanic undergraduates (53%) were enrolled in two-year community colleges (NCES, 1997).

Doña Ana Branch Community College History, Mission, and Purposes

In 1965 Doña Ana County, New Mexico was designated by the New Mexico Department of Education as a site for an area vocational-technical post-secondary institution. In 1972 the public school boards of education, in the service district (Doña Ana County), as a combined board, adopted a resolution for a mil levy to fund the community college under the state of New Mexico, Branch Community College Act. Established as a branch community college of New Mexico State University by the Board of Regents in 1971, voters approved the operational funding of the college by referendum in 1973. Classes offering vocational training programs began in September 1974 (Lillibridge, 2001).

The Doña Ana Branch Community College central campus is located on the southwest edge of the New Mexico State University campus in Las Cruces, New Mexico. The main building was constructed in 1977 with additional facilities erected beginning in 1988 through 2001. In addition, satellite locations were established in rural communities of Anthony, Sunland Park, and White Sands Missile Range, New Mexico (Lillibridge, 2001). As noted in the college catalog:

> Specifically, the mission of the community college is incorporated into seven purposes:
>
> · To provide students opportunities for career and technical education essential to attain meaningful employment.
>
> · To provide general education courses for Doña Ana Branch Community College majors, in support of their academic goals.
>
> · To provide general academic preparatory studies for the development of knowledge and skills appropriate to the student's chosen field of study.
>
> · To provide education opportunities for Doña Ana County high school students.

· To provide workforce initiatives, services, and programs in support of economic development of the college's service delivery area.

· To provide access to adult basic education for individuals to achieve literacy skills, English proficiency, citizenship, and preparation for the high school equivalency diploma.

· To provide continuing education and community service programs in response to community needs and interest. (Doña Ana Branch Community College Catalog, 2001)

DABCC Student Demographics

Doña Ana Branch Community College is a U.S. Department of Education designated Hispanic-Serving Institution. Demographic composition of the entire student body for Fall 2000 through Spring 2001 was 58% Hispanic and 36% White non Hispanic (Lillibridge, 2001). The community college's ethnic composition was representative of the total population of the college's local service area in Doña Ana County, New Mexico. The U.S. Bureau of the Census (2000) reported 63.4% of the county population being of Hispanic origin while 32.5% were non Hispanic White.

Gender distribution for the same college population averaged 54.5% female and 45.5% male (Lillibridge).

During the 2000-2001 year gender distribution by ethnicity showed that Hispanic females represented 33% of the total enrollments, with Hispanic males totaling 25%. The mean age of students attending the community college was 28 years.

Total enrollment (head count) in all credit classes offered at Doña Ana Branch Community College for the 2000-2001 academic year averaged 4545 over Fall and Spring semesters (Lillibridge). During the same time period 26% of the Doña Ana Branch Community College student population enrolled full-time, taking 12 credit hours or more, while 74% enrolled part-time taking between one and eleven credits per semester.

Community College Retention Studies

A limited number of studies have been conducted to determine which variables affect student retention in community colleges. These studies attempted to identify discernable variables that contributed to student departures from community college campuses. Several of these studies are reviewed in this section.

Bangura (1992) conducted a retention study of minority students who attended the New Community College of Baltimore from Fall 1989 to Fall 1990. Student demographics were 75% African-Americans, and 23% non Hispanic Whites, with the remaining 2% consisting of Asian, Hispanic, and other ethnic groups. Given the poor response rates of previous longitudinal studies, where survey instruments were administered at the college, Bangura chose to study a Fall 1989 to Fall 1990 cohort of first-time students for his retention research. Using a combination of mailed questionnaires in addition to conducting two focus-group sessions, Bangura reported a 35% response rate (107/312) from the cohort of students no longer attending the community college. Focus group sessions were designed by Bangura in an attempt to compensate for his perceived weakness associated with survey methodologies. Out of the 107 respondents, a total of 13 students participated in the focus-group sessions.

Bangura felt the focus-groups provided important qualitative data that enhanced the study results. He believed the student feedback could be better utilized by the college for improvements in their student retention initiatives. Study conclusions and recommendations derived primarily from the focus-group sessions indicated several underlying factors for the retention problems at New Community College of Baltimore. Bangura attributed the lack of interpersonal relationships, i.e., that the student expected of the college and their need for acculturation within the college environment as significant indicators of student departure.

Blanca (1989) used Tinto's (1975) academic and social integration conceptual frameworks to examine the relationships of factors in students' decision to persist in their community college studies. Students surveyed had participated previously in organized retention activities and programs offered at three Florida public community colleges. Specifically, Blanca surveyed a sample of Hispanic, African-American, and non Hispanic White students to determine the relationships between demographic and background variables, and students' perceptions of persistence factors. Persistence variables defined in the research design were comfortability, convenience, benefits, and external influences. Results of the study indicated that all four dependent variables were important to students' decisions to persist. Benefits of the retention programs were the most influential indicators followed by external influences, convenience, and comfortability. Academic integration into the colleges' program of study had a strong influence on persistence decisions. Blanca's research indicates that colleges should promote the benefits of academic services such as organized retention programs. The study also revealed the important role faculty and staff have in student persistence, especially in helping meet the needs of various racial and ethnic groups. No significant differences were found between the student groups.

Clark-Tolliver's study (1996) was conducted at Solano Community College in California. A survey was administered to determine why students drop out of a community college prior to completion of their intended goals. A random sample of students was included in the survey consisting of those that enrolled during the Fall 1993 semester but did not return for Fall 1994. Students' demographic characteristics accounted for a very small amount of the variance in the model. Post-admission variables proved to be the most important factors in student persistence. Students who failed to pass any classes, who dropped classes, and those placed on probation or were suspended, were more likely to drop out. The study focused efforts on identification of institutional factors that contributed to student persistence at the community college. Results indicated that students were not aware of many of the college support services that were being offered or they had not utilized them. Although results of the study did not reveal significant differences among student characteristics, this may have been attributable to the predominantly non Hispanic White population enrolled at Solano Community College.

Dexter's study (1992) was designed to determine if differences existed between Hispanic and non Hispanic students background characteristics, and the reasons for each group to have enrolled in a two-year college. Findings indicate that institutional variables do impact students' decisions to enroll, particularly among Hispanic students. Although Dexter's research was not a retention study, the implications of the results do support the need for institutions to provide a full range of services in a comprehensive campus setting. Conclusions of Dexter's study recommended community colleges provide remedial and tutorial services, make financial aid readily available, create a culturally sensitive institutional climate, encourage diversity among faculty, counselors, and staff, and ensure that instructional and student development programs are responsive to the cultural diversity of all students. A relatively small sample size of 150 students was utilized in the study with one-third of the sample being Hispanic students.

The purpose of Ramirez's study (1996) was identification of factors related to student persistence that could be used by community colleges in development of strategies to enhance Hispanic student academic success. Ramirez's research model was designed using the conceptual framework of the Cabrera, Nora, and Castaneda (1993) student retention integrated model. Results of the study indicated that some differences existed in prediction of student persistence factors between the study group of Hispanic and non Hispanic students. Variables identified in the analysis indicated that institutional variables did affect students' desires to persist. Variables identified as important to all students included; feeling a sense of belonging, caring faculty, highly motivated faculty, proper advising, and an open, friendly, and supportive environment. Hispanic students reported that a sense of belonging and attending an open, friendly, and supportive college was most important to them. Non Hispanic students reported that proper advising was the most important factor in their continued enrollment. Other findings indicated that vocational-technical students felt that good relationships with faculty, being advised properly, and having highly motivated faculty was most important to them. Academic students reported the factors most important to them were related to staff who expressed a welcoming attitude, having the support of close friends, and having caring faculty. Results of the study indicated that traditional higher education retention models did not account for a majority of the variance in predicting persistence within a community college serving a majority Hispanic student population.

Summary

The review of literature explored the complexity of student retention in higher education with an emphasis on community colleges. It demonstrates that community college students, defined as a nontraditional student population, has not persisted in attainment of their educational goals at comparable rates of traditional university students. The influences of college life such as interactions with institutional support services and programs, and faculty and staff all contribute to or detract from students' satisfaction with their institution.

The literature provides supporting theories and explanations for students choosing whether to remain in college or not, but few researchers have based their models on assessment of student satisfaction of campus experiences, and fewer have analyzed the impact of institutional variables and student satisfaction in a Hispanic-serving community college campus.

Chapter 3 will review the research design and methodology used in the study.

CHAPTER 3

RESEARCH METHODS

Introduction

Chapter 3 includes information about the study's research design, instrument selection and utilization, general research questions and hypothesis, participants, and variables. The chapter also describes how data was collected and analyzed.

Research Design

The study investigated and examined the relationship of institutional variables, i.e., those factors' students associate with and interact with while attending a community college, and their levels of satisfaction with the institution. Further inquiry examined the potential influence these variables may have had on students' decisions to remain enrolled at Doña Ana Branch Community College, a two-year branch campus of New Mexico State University. Additionally, it was posited the study would provide new insight into the types of institutional services and programs that are important to students while enrolled at Doña Ana Branch Community College.

Areas of investigation included an examination of composite or clustered institutional variables associated with items such as the college climate, safety, and security, institutional policies and procedures, interactions with student services and personnel, faculty, advisors, staff, and, college support services. Additionally, the relationship of institutional variables, and the potential effects they may have on students' satisfaction, between different gender and ethnic groups, was examined. It was posited the study findings would provide new insight into the types of institutional services and programs that are important to students attending Doña Ana Branch Community College, thus contributing to student satisfaction and their decisions to remain continuously enrolled.

This chapter describes the methodology used to investigate variables related to student satisfaction in a Hispanic-Serving community college. The study is based on theoretical models postulated by Astin, 1975; Bean 1980; Noel et al., 1985; and Tinto 1975, 1993b. Literature reviewed for the study identified numerous individual and institutional variables that have been found to influence students' retention in colleges and universities, and those associated with student satisfaction. The literature review also discussed the dynamics of students satisfaction associated with their interactions with various college services, programs, and staff, and also studies relevant to minority student retention in higher education. Fewer studies were found that identified institutional variables specifically related to student satisfaction of students enrolled in a community college, specifically serving a majority Hispanic student population.

Research Questions

The following research questions were developed from the review of research literature. The literature supports using a survey instrument to collect required data for the study (Salant & Dillman, 1994). Data collected was derived from administration of a student satisfaction inventory instrument designed by Schreiner and Juillerat (1993). The title of the instrument used for the study is the Student Satisfaction Inventory™ for two-year colleges, copyrighted by Noel-Levitz Inc., USA Group (2001).

Five comprehensive research questions guided the study.

Research Question 1.1

Is there a relationship between Doña Ana Branch Community College students' overall expectations of their college experience, and, their overall satisfaction with those experiences?

Research Question 1.2

Is there a relationship between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables?

Research Question 2.1

Is there a difference between Doña Ana Branch Community College students' overall expectations of their college experience, and, their overall satisfaction with those experiences?

Research Question 2.2

Is there a difference between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables?

Research Question 3

Which combinations of the clustered institutional variables most positively influence students' decisions to remain enrolled at Doña Ana Branch Community College?

Research Question 4

In comparing the level of student expectations of institutional variables, is there a difference between;

a. Hispanic and non-Hispanic White students,

b. men and women students, and

c. the combination of ethnicity and gender?

Research Question 5

In comparing the level of student satisfaction of institutional variables, is there a difference between;

a. Hispanic and non-Hispanic White students,

b. men and women students, and

c. the combination of ethnicity and gender?

General Research Hypotheses

General research hypotheses tested in the study included the following:

Research Hypothesis 1.1

A relationship exists between Doña Ana Branch Community College students' overall expectations of their college experience, and, their overall satisfaction with their experiences.

Research Hypothesis 1.2

A relationship exists between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables:

a. Academic advising and counseling effectiveness
b. Academic services
c. Admissions and financial aid
d. Campus climate
e. Campus support services
f. Concern for the individual
g. Instructional effectiveness
h. Registration effectiveness
i. Responsiveness to diverse populations
j. Safety and security
k. Service excellence
l. Student centeredness

Research Hypothesis 2.1

A difference exists between Doña Ana Branch Community College students' overall expectations of their college experience, and, their overall satisfaction with those experiences.

Research Hypothesis 2.2

A difference exists between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables.

Research Hypothesis 3

At least one clustered institutional variable will influence students' decisions to remain enrolled at Doña Ana Branch Community College.

Research Hypothesis 4.1

A difference exists in students' expectations of institutional variables between Hispanic and non-Hispanic White students.

Research Hypothesis 4.2

A difference exists in students' expectations of institutional variables between men and women.

Research Hypothesis 4.3

Interaction exists between students' ethnicity and gender and students' expectations of institutional variables.

Research Hypothesis 5.1

A difference exists in students' satisfaction of institutional variables between Hispanic and non-Hispanic White students.

Research Hypothesis 5.2

A difference exists in students' satisfaction of institutional variables between men and women.

Research Hypothesis 5.3

Interaction exists between students' ethnicity and gender and students' satisfaction of institutional variables.

Instrument Selection and Utilization

Data for the study was collected using the Student Satisfaction Inventory^{TM} for two-year colleges (Noel-Levitz Inc., 2001). The instrument is a 70-item questionnaire designed to assess a variety of community college student experiences. Schreiner and Juillerat (1993) coauthored the Student Satisfaction Inventory^{TM} to measure students' expectations of their college experiences, and their level of satisfaction with those experiences. The Student Satisfaction Inventory^{TM} incorporates principles of consumer theory as the basis for its construction (Juillerat, 1995). Students are viewed as consumers having a choice whether or not to invest in a particular institution, and assumed to have definite expectations about what they want from college (Juillerat). "Based on this perspective, satisfaction with college occurs when the expectation is met or exceeded by an institution. Therefore, the Student Satisfaction Inventory^{TM} investigates both expectations and satisfaction that the expectations are being met" (Juillerat, p. 60-61).

Instrument Item Development

The Student Satisfaction Inventory^{TM} originated from student interviews and educational experts determining what was important to students in their overall satisfaction with the educational environment (Juillerat, 1995). Initially, the instrument had 248 item statements and was piloted with a random sample of 100 students at a private, liberal art's college in the Northeast. It was later reduced through examination of statistical analysis (Juillerat). The Student Satisfaction Inventory^{TM} instrument, used for the study, originally constructed for use by four year universities, was refined and validated for two-year community colleges in 1994 (Noel-Levitz Inc., 2001). It contains 70 item statements factor-analyzed and grouped into clustered scales:

a. Academic advising and counseling effectiveness
b. Academic services
c. Admissions and financial aid
d. Campus climate
e. Campus support services
f. Concern for the individual
g. Instructional effectiveness

h. Registration effectiveness
i. Responsiveness to diverse populations
j. Safety and security
k. Service excellence and
l. Student centeredness.

The instrument was constructed to solicit students' perceptions about their college, covering a comprehensive range of campus experiences. The inventory is a two-dimensional assessment with each item written as a statement of expectation. Using a seven-point Likert rating scale, respondents were asked to rate the level of importance for their expectations of the college, and their corresponding level of satisfaction associated with their expectations.

Noel-Levitz Inc. copyrighted the Student Satisfaction Inventory™ in 1994. Noel-Levitz Inc. is a privately held national consulting firm that has independently conducted annual national student satisfaction studies, of both universities and community colleges, since 1992. In 2001 Noel-Levitz Inc. published the 9th Annual National Student Satisfaction Report from data collected during 2000. The report includes a compilation of results from 1,099 colleges and universities including four-year public and private, two-year community, junior and technical institutions, and two-year career and private schools. Of those institutions, a total of 292,877 two-year community, junior, and technical college students completed the Student Satisfaction Inventory™ during 2000. Noel-Levitz Inc. also provides consulting services for higher education institutions in marketing and recruitment, student enrollment management, and staff and organizational development.

Instrument Reliability and Validity

A study to investigate and examine the survey instrument's reliability and validity was conducted by Juillerat (1995). Tests of internal reliability conducted by Juillerat (1995) using Cronbach's (1951) coefficient alpha was .97 for the set of importance scores and .98 for the set of satisfaction scores. The test-retest reliability coefficient was .85 for importance scores, and .84 for satisfaction scores, indicating good score reliability over time. Juillerat's study also assessed the convergent validity of the instrument by correlating the mean between the expectation and satisfaction scores of the Student Satisfaction Inventory from the College Student Satisfaction Questionnaire (Betz, Starr, and Menne, 1971), another statistically reliable satisfaction instrument designed for administration in higher education. The Pearson correlation between these two instruments ($r = .71$; $p < .0001$) indicates that the Student Satisfaction Inventory's satisfaction scores measure the same satisfaction construct as the College

Student Satisfaction Questionnaire's scores. Yet, Juillerat's correlation results are low enough to suggest that distinct differences exist between the two instruments.

Data Tabulation

The researcher collected completed inventory forms then mailed them to be scanned and tabulated by Noel-Levitz Inc. Data were grouped by item categories and aggregated within the 12 cluster scale variables. A comprehensive electronic data file was provided to the researcher for statistical treatment and testing of the hypotheses. Descriptions of the sub-scale variables included in the Student Satisfaction Inventory™ instrument are outlined in the next section.

Variable List

The following is a descriptive listing of the 12 clustered sub-scaled variables (Noel-Levitz Inc., 2001), their Statistical Analysis System (SAS) file code assigned by the researcher, and the instrument item number grouped by each composite variable (Appendix A).

V1. Academic Advising and Counseling Effectiveness (AACE): Assesses the personal concern for students, the comprehensiveness of the academic advising program, and evaluates advisors' competence, knowledge, and approachability. Instrument item numbers: 6,12,25,32,40,48,52.

V2. Academic Services (ACER): Assesses student services including the library, computer labs, study areas, and tutoring services. Instrument item numbers: 14,21,26,34,42,50,55.

V3. Admissions and Financial Aid (ADFA): A measure of admission's counselor's competence and knowledge, and students' perceptions of the availability and effectiveness of these areas. Instrument item numbers: 7,13,20,33,41,49.

V4. Campus Climate (CACL): An indicator of how well the institution provides experiences that promote a sense of belonging and campus pride. Instrument item numbers: 1,2,16,22, 27,28,31,36,44,45,52,57,59,63,67.

V5. Campus Support Services (CASS): Measures the quality of services and support programs. Instrument item numbers: 10,17,19,30,38,47,59.

V6. Concern for the Individual (CNIN): Assesses the college's commitment to treating each student as an individual. Groups that frequently interact with students, such as faculty, advisors, and counselors, are included in this assessment. Instrument item numbers: 2,16,25,29,48.

V7. Instructional Effectiveness (INEF): A measure of the students' academic experience, the curriculum, and the college's overall commitment to academic excellence. Instrument item numbers: 2,18,23,29,37,46,54,58,61,64,65,66,69,70.

V8. Registration Effectiveness (RGEF): An assessment of how effective and smooth the registration and billing processes are conducted. Instrument item numbers: 5,8,15,35,43,51,56,60,62.

V9. Responsiveness to Diverse Populations (RSDP): Assesses the college's commitment to meeting the needs of under represented students, students with disabilities, part-time, older, and returning students. Instrument item numbers: 81,82,83,84,85,86.

V10. Safety and Security (SFSE): A measure of the responsiveness of the institution to students' personal safety and security on campus. Instrument item numbers: 4,11,24,31,39.

V11. Service Excellence (SREX): Measures where personal concern for students and quality service are rated most and least favorably. Instrument item numbers: 5,22,26,27, 44,57,62,63,67.

V12. Student Centeredness (STCN): Measures the institution's attitude toward students and the degree to which they feel welcome and valued. Instrument item numbers: 1,16,27,28,36,57.

Additional variables included in the testing of the hypotheses include the following items.

V13. Overall Expectation (OEX): A rating of how well the college has met students' expectations. Instrument item number: 96.

V14. Overall Satisfaction (OSA): A rating of how satisfied students are with their college experience. Instrument item number: 97.

V15. Re-enroll (REN): A measure of student intent to re-enroll, at the college they are currently attending, if given the choice to start again. Instrument item number: 98.

Data Collection Procedures

Adapting survey procedures recommended by Salant and Dillman (1994), the study was designed to initially administer the instrument, in person, within controlled time-lines. The study design parameters required that the Student Satisfaction Inventory™ be administered to all first-time students who initially enrolled during the Fall 2000 semester. Approval to administer the inventory on campus was given by the campus executive director (Appendix B). The study group included only those who remained continuously enrolled through Spring 2001 and had subsequently enrolled for the Fall 2001 semester. Administration of the survey instrument was conducted during the Fall 2001 semester at the Doña Ana Branch Community College central campus in Las Cruces, New Mexico.

Participant Correspondence

A personalized letter describing the purpose of the study was mailed to all eligible participants immediately following the Fall 2001 enrollment census date (Appendix C). The letter explained the nature of the study, provided information about the purpose of the study, and encouraged students to participate in the campus-wide survey. Each letter included a uniquely numbered ticket stub used for three purposes. First, it gave the researcher a mechanism to record students' participation. Second, it was used for purposes of providing an incentive for those having participated in the study. Third, the numbered tickets helped the researcher in tracking non respondents, thus simplifying follow-up procedures. Students were given assurances that their participation was voluntary, and that all survey responses would remain confidential. Additionally, study volunteers signed a Consent Form to Participate in Research (Appendix D).

Students were given an initial option to complete the inventory on campus during one of three different meeting days, scheduled three different times each day. They were also offered incentives to participate in the study. The cover letter explained that upon completion of the survey a certificate good for a free lunch would be given to each participant. As an added incentive for participating in the study, several door prizes were given away following the conclusion of the inventory administration.

Following the conclusion of the initial series of on-site meeting dates, students who did not participate, received a follow-up letter requesting their assistance and encouraged them to complete the inventory. (See Appendix E). The second follow-up letter was mailed immediately following the completion of the initial on-site process and restated the importance of their participation in the study. Two additional on-site meeting dates were scheduled for an additional three times. Students also received a phone call before the second series of follow-up sessions to encourage them to participate.

A third letter was mailed after the on-site administration of the inventory (Appendix F). Packets were mailed to all students who had not previously participated in the study. The packets included the Student Satisfaction Inventory™ with written instructions to complete the form and return it to the researcher by a specified date. A self-addressed stamped envelope was also provided for ease of returning the form to the researcher.

Inventory Administration

The researcher administered the survey procedures. On-site meetings were scheduled in classrooms or conference rooms, at various times throughout the day and different days of the week. A review of students' class schedules by the Doña Ana Branch Community College Institutional Effectiveness and Planning Office staff assisted the researcher to decide the appropriate days and times to schedule the sessions. At the beginning of each scheduled session, students were read instructions describing the purposes of and procedures for completing inventory. Additionally, students were informed it would take approximately 20 minutes to complete the instrument. The researcher answered questions to clarify the procedures used to complete the form. Upon completion of the survey instrument, students were given free food certificates that were redeemable at the community college snack bar.

Treatment of Data

Following the conclusion of the administration of the survey instrument, completed forms were checked for completeness and collated by the researcher. Missing data, such as blank sections or multiple marks per item, invalidated respondents' instrument and were not used in the data analyses. All useable instrument forms were mailed to Noel-Levitz Inc. for initial data compilation and statistical processing. An electronic data file was generated by Noel-Levitz Inc. and mailed back to the researcher for statistical treatment and analysis of the research hypotheses.

The researcher analyzed data entering all student responses into the Statistical Analysis System (SAS), a statistical analysis computer program commonly used in educational research. Treatment of the data included both descriptive and inferential statistics. Descriptive statistics were summarized and tables included response rates, student demographics, and distribution of study participants enrolled at the community college.

In order to test the research hypotheses, appropriate inferential statistical procedures were selected, given the research design, that included the following; correlation coefficients, *t*-tests, stepwise multiple regression analysis, and analysis of variance (ANOVA). A comparison of the level of student expectations and satisfaction were analyzed for the following groupings, Hispanic and non-Hispanic White students, men and women, and a combination of gender and ethnicity.

Pearson product-moment correlation coefficients were computed to test research hypothesis 1. It was hypothesized that students' perceived levels of expectation of their college experiences would be related to their levels of satisfaction. Tests were conducted to compare students overall expectations with their overall satisfaction of the college. Additionally, individual tests were run to determine if there were relationships between the clustered institutional variables.

For research hypothesis 2, *t*-tests were computed to determine if differences existed between the students' ratings of expectations and satisfaction. Tests were run for overall expectations and satisfaction, and for the various clustered institutional variables. The level of significance required for rejection of research hypothesis 1 and 2 was alpha .05.

To determine if one of the clustered institutional variables would have an influence on students' decisions to re-enroll at the college, multiple regression analysis was used to treat the data for research hypothesis 3. It was hypothesized that at least one clustered institutional variable would influence students' decisions to re-enroll. The results provided estimates of the magnitude and statistical significance of relationships among variables. The purpose of multiple regression analysis was to determine which of the predictor variables could be combined to form the best prediction of intent to re-enroll (Borg & Gall, 1989). The level of significance required for rejection of research hypothesis 3 was alpha .15.

A two way ANOVA (analysis of variance) test was used for research hypothesis 4 and 5. The statistical tool was used to analyze all independent variables (institutional variables) and to test for significance of differences between the student groupings. Both main effects and interaction were investigated. The initial step in the ANOVA procedure tested whether there was a significant difference between the mean responses of each group. For the groupings where a significant difference was detected, a paired comparison (Duncan's Multiple Range Test) was performed to determine which pair or pairs of intervals were significantly different. The level of significance required for rejection of research hypothesis 4 and 5 was alpha .05.

Summary

The methodology used in the study included the following: selection of an appropriate survey instrument, the administration of the instrument, and statistical procedures used in analysis of data. The methodology was intended to identify institutional factors related to student satisfaction and their influence on students' decisions to remain enrolled in college.

Chapter 4 will provide results of the analyses described in this chapter. Chapter 5 will include the conclusions, recommendations, and implications of the study results.

CHAPTER 4

RESULTS OF THE STUDY

Introduction

The results of the data analysis performed for the study are enumerated in this chapter. The purpose of the study was to investigate and examine the relationship of institutional variables or factors students associate with and interact with while attending a community college, and compare these to their reported level of expectations for and satisfaction with the institution. Further inquiry examined the potential influence these variables may have had on students' decisions to remain enrolled at Doña Ana Branch Community College. Specific purposes of the study included the following:

1. To examine the relationship between student expectations and levels of student satisfaction with the institution.

2. To examine if there was a difference in students' expectations of institutional services, policies, procedures, and staff, compared to their reported satisfaction with the institutional services, policies, procedures, and staff.

3. To identify which institutional variables may have positively influenced students' decisions to remain continuously enrolled at Doña Ana Branch Community College.

4. To compare the level of student expectations and level of satisfaction of Hispanic and non Hispanic White students, men and women, and the interaction between ethnicity and gender.

Data collected in this chapter were collected and analyzed following the research methodology outlined in Chapter 3. The study sought to answer five research hypotheses. This chapter presents the findings of the study including the demographics of the survey participants, their responses, and results for the five research hypotheses.

Study Participants

Selected Doña Ana Branch Community College students were invited to participate in the study. Participation in the study was limited to first-time students, initially enrolled for the Fall 2000 semester, and had subsequently re-enrolled during the Spring and Fall 2001 semesters. Only continuously enrolled students were identified for inclusion in the study. Identification and verification of eligible participants for the study were determined through analysis of Doña Ana Branch Community College student enrollment data maintained by the college's institutional research and planning office.

Demographics of Study Participants

A cohort of 252 students was identified for inclusion in the study and invited to participate during the Fall 2001 semester. Responses to the Student Satisfaction Inventory™ were administered from October through December 2001. An overall return rate of 32.5% was achieved with 82 of the 252 students eligible responding to the inventory. All forms were reviewed for completeness and all were usable.

The distribution of the population cohort and percentage of respondents by gender is shown in Table 1.

Table 1

Distribution by Gender of Study Population and Respondents

Gender	Study Population	Number of Respondents	Percent of Respondents by Gender
Men	131	37	28.24
Women	121	45	37.19

Among the 82 study participants, 45% were men and 55% were women. Demographic information for the 82 respondents is shown in Tables 2 through 6.

Table 2

Gender and Age

Category	Number	Percent of Respondents
Gender:		
Men	37	45.12
Women	45	54.88
Age Group:		
18 and under	19	23.17
19-24	45	54.88
25-34	7	8.54
35-44	11	13.41
45 and over	0	0.00

Table 3

Ethnicity

Category	Number	Percent of Respondents
Ethnic Origin:		
Asian American	1	1.20
Non Hispanic White	24	29.27
Hispanic	53	64.63

Other	2	2.44
Prefer not to respond	2	2.44

Table 4

Enrollment Characteristics

Category	Number	Percent of Respondents
Enrollment Status:		
Day	57	72.15
Evening	22	27.85
Weekend	0	0.00
No Response	3	
Class Load:		
Full-time	52	63.41
Part-time	30	36.59
Class Level:		
1 year or less	21	25.61
2 years	58	70.73
3 years	3	3.66

Table 5

Academic Record

Category	Number	Percent of Respondents
Grade Point Average:		

No credits earned	1	1.23
1.99 or below	4	4.94
2.0 to 2.49	15	18.52
2.5 to 2.99	11	13.58
3.0 to 3.49	22	27.16
3.5 or above	28	34.57

Table 6

Educational Goal

Category	Number	Percent of Respondents
Associate Degree	55	67.07
Vocational/technical program	2	2.44
Transfer to another college	6	7.32
Certification	4	4.88
Self-improvement	2	2.44
Job-related training	2	2.44
Other educational goal	11	13.41

A total of forty-five women and thirty-seven men responded to the survey, comprising 55% and 45% of the respondents respectively. The majority of respondents were Hispanic (65%); between the ages of 18 and 24 years old (78%); and were enrolled full-time (63%), predominantly taking classes during the day (73%). A majority of respondents (61%) reported a grade point average of 3.0 or above, with 67% stating they were pursuing an Associate degree.

Respondents were also asked to identify their primary residence, residency classification, and whether their decision to enroll in the institution was their first, second, third or lesser choice. The majority reported they were living in their parents home (61%), with 98% indicating they were in-state residence students. A total of 66 students (86%) responded that Doña Ana Branch Community College was their first choice with 12% indicating it was their second choice.

Study Results--Findings of the Instrument Items

Data for the study was collected using the Student Satisfaction Inventory™ for two-year colleges (Noel-Levitz Inc., 2001). The Student Satisfaction Inventory™ contained 70 item statements designed to assess a variety of community college student experiences. The inventory's item statements have been factor-analyzed and scaled into twelve cluster variables (institutional variables) for use in the study analyses. The instrument had been statistically tested for validity and reliability in a previous study conducted by Juillerat (1995). Prior to the researcher conducting the study statistical analyses the inventory forms were reviewed for completeness then mailed to Noel-Levitz Inc. Forms were scanned, tabulated, data coded, and saved to an electronic data file and mailed back to the researcher. Students also completed sections that provided demographic information and responded to three additional item statements that were used in testing the research hypotheses. Table 7 provides descriptive statistical results for the twelve cluster variables.

Table 7

Descriptive Statistics of Cluster Variables

Cluster Variable	Expectation Mean	Std Dev	Satisfaction Mean	Std Dev
V1. Academic Advising and Counseling Effectiveness	6.13	0.98	5.17	1.35
V2. Academic Services	6.21	0.82	5.48	1.08
V3. Admissions and Financial Aid	6.00	1.08	5.05	1.44
V4. Campus Climate	6.19	0.66	5.54	0.87
V5. Campus Support Services	4.71	1.53	4.08	1.61
V6. Concern for the Individual	6.31	0.77	5.31	1.14
V7. Instructional Effectiveness	6.44	0.58	5.60	0.91
V8. Registration				

Effectiveness	6.40	0.60	5.68	0.87
V9. Responsiveness to Diverse Populations			4.65	0.98
V10. Safety and Security	6.00	1.02	4.44	1.39
V11. Service Excellence	6.09	0.72	5.44	0.87
V12. Student Centeredness	6.24	0.74	5.68	0.94

Note. Likert scale, 1 to 7. 7 = Expectations and Satisfaction levels are very high; 1 = Expectations and Satisfaction levels are very low. Instrument designed for satisfaction responses for variable V9.

Generally, the majority of responses fell within a range of "important" (6) to "very important" (7) for each cluster variable associated with expectations. Variable V7 Instructional Effectiveness had the highest mean score (6.44) while V5. Campus Support Services received the lowest mean score (4.71). Satisfaction mean scores were lower in every category compared to levels of expectation scores, but generally fell within the range of "somewhat satisfied" (5) to "satisfied" (6). However, the highest mean score for satisfaction was V8. Registration Effectiveness and V12. Student Centeredness (5.68) with the lowest score V5. Campus Support Services (4.08).

Table 8 shows descriptive statistical information for two variables; overall level of expectation and overall satisfaction.

Table 8

Expectation and Satisfaction--Summary Responses

Variable	Mean	Std Dev
V13. Overall Expectation	5.34	1.31
V14. Overall Satisfaction	5.85	1.15

Note. Likert scale 1 to 7. 7 = Overall expectations and overall satisfaction levels are very high; 1 = Overall expectations and overall satisfaction levels are very low.

The inventory item, V13. Overall Expectation statement asked students the following: "So far, how has your college experience met your expectations?" The expectation mean score of 5.34 indicated their college experiences had been "better than expected." The inventory item, V14 Overall Satisfaction asked students the following: "Rate your overall satisfaction with your experience here thus far." The mean score of 5.85 indicated students were "satisfied" with their experiences at the college.

Table 9 shows a mean score of 6.33 for item V15. Re-enroll asked students the following: "All in all, if you had it to do over again, would you enroll here?" Student responses indicated that "probably yes" they would re-enroll at the institution.

Table 9

Intent to Re-enroll

Variable	Mean	Std Dev
V15. Re-enroll	6.33	0.86

Note. Intent to re-enroll; 7 = Definitely yes,
1 = Definitely not.

Study Results--Research Hypothesis

The following section outlines the results of the statistical analysis for each research hypothesis.

Research Hypothesis 1.1

A relationship exists between Doña Ana Branch Community College students' overall expectations of their college experience, and their overall satisfaction with their experiences.

A Pearson product-moment correlation coefficient was calculated to analyze data collected from the research hypothesis. As reported in Table 10, the results supported the hypothesis that a relationship existed between; 1. students' ratings of how well the college had met their expectations, and, 2. ratings of satisfaction with those college experiences. Therefore, Research Hypothesis 1.1 was accepted.

Overall Expectations were significantly correlated with the Overall Satisfaction criterion variable. The correlation coefficient value, $r = .63$ resulted in a moderately positive relationship.

Table 10

Correlations Between Overall Expectations and Satisfaction Variables

Criterion Variables	V14. Overall Satisfaction
V13. Overall Expectations	.63*
	N = 82

*$p < .0001$

Research Hypothesis 1.2

A relationship exists between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables:

V1. Academic advising and counseling effectiveness
V2. Academic services
V3. Admissions and financial aid
V4. Campus climate
V5. Campus support services
V6. Concern for the individual
V7. Instructional effectiveness
V8. Registration effectiveness
V10. Safety and security
V11. Service excellence
V12. Student centeredness

Pearson correlation coefficients were calculated to analyze data collected from the research hypothesis. As reported in Table 11, the results supported the hypothesis that relationships would exist between students' perceived expectations of the college and their satisfaction with the college. Therefore, Research hypothesis 1.2 was accepted.

As reported in Table 11, variables V1. Academic Advising and Counseling Effectiveness, V2. Academic Services, V3. Admissions and Financial Aid, V5. Campus Support Services, V8. Registration Effectiveness, and V12. Student Centeredness were found to be significantly correlated.

Table 11

Correlations Between Expectation and Satisfaction Variables

Institutional Variables		Correlation Coefficient *r*
V1.	AACE-Academic advising and counseling effectiveness	.56*
V2.	ACER--Academic services	.61*
V3.	ADFA-Admissions and financial aid	.62*
V4.	CACL-Campus climate	.36
V5.	CASS--Campus support services	.80*
V6.	CNIN-Concern for the individual	.34
V7.	INEF-Instructional effectiveness	.26
V8.	RGEF-Registration effectiveness	.45*

V10. SFSE- Safety and security	.28
V11. SREX-Service excellence	.40
V12. STCN-Student centeredness	.43*

Note. Instrument was not designed to collect data for Expectations variable V9.

*$p < .0001$

Research Hypothesis 2.1

A difference exists between Doña Ana Branch Community College students' overall expectations of their college experience, and, their overall satisfaction with those experiences.

A *t* test was used to analyze data collected from the research hypothesis. As reported in Table 12, the results supported the hypothesis that a difference existed between; 1. students' ratings of how well the college had met their expectations, and, 2. ratings of satisfaction with those college experiences. Therefore, Research Hypothesis 2.1 was accepted.

Table 12

T-Statistics: Overall Expectations and Overall Satisfaction

Variables	N	$\overline{\text{Expec}}$	$\overline{\text{Satis}}$	Diff	Std Error	*t*
V13. Overall Satisfaction and V14. Overall						

Expectation	82	5.34	5.85	-0.51	0.12	-4.34*

**p* < .0001

Research Hypothesis 2.2

A difference exists between Doña Ana Branch Community College students' level of expectation and level of satisfaction for the clustered institutional variables.

A *t* test was performed to analyze data collected from the research hypothesis. As reported in Table 13, the results supported the hypothesis that differences would exist between students' perceived expectations of the college and their satisfaction with the college. Therefore, Research Hypothesis 2.2 was accepted.

Table 13

T-Statistics: Expectations and Satisfaction Variables

Variable	N	$\overline{\text{Expec}}$	$\overline{\text{Satis}}$	Diff	Std Error	*t*
V1. AACE	76	43.20	36.36	6.84	0.91	7.52*
V2. ACER	78	43.55	38.37	5.18	0.69	7.50*
V3. ADFA	78	36.00	30.33	5.65	0.78	7.22*
V4. CACL	75	93.28	83.16	10.12	1.53	6.61*
V5. CASS	75	33.49	28.57	4.92	0.81	6.11*
V6. CNIN	80	31.50	26.54	4.96	0.64	7.75*
V7. INEF	75	90.36	78.20	12.16	1.52	7.99*

V8. RGEF	79	57.65	51.13	6.52	0.82	8.00*
V10. SFSE	81	29.95	22.20	7.75	0.82	9.46*
V11. SREX	76	55.30	48.99	6.32	0.90	7.03*
V12. STCN	78	37.55	34.10	3.45	0.62	5.60*

Note. Data not collected for Expectations variable, V9.

$^{*}p < .0001$

Research Hypothesis 3

At least one clustered institutional variable will influence students' decisions to remain enrolled at Doña Ana Branch Community College.

A multilinear regression analysis, using the SAS Stepwise Forward procedure, was computed to analyze data collected from the research hypothesis. The procedure entered predictor variables one at a time. The first variable selected for inclusion into the model were the predictor variables (institutional variables) that had the highest correlation with the criterion variable (intent to re-enroll). As reported in Tables 14-17, the results supported the hypothesis that institutional variables would have an influence on students' decisions to re-enroll. Therefore, Research Hypothesis 3 was accepted.

Both expectation and satisfaction ratings were analyzed. Table 14-16 summarizes the results of the regression analysis for expectation variables computed by the Stepwise procedure.

The initial Stepwise procedure (Step 1) added V4. Campus Climate to the restricted model resulting in a total R^2 = .1086. Table 14 provides results of the analysis.

Step 2 of the Stepwise procedure added V5. Campus Support Services to the restricted model resulting in a total R^2 = .1463. Table 15 reported variables V4. Campus Climate and V5. Campus Support Services produced the next highest R^2 value for the restricted model.

Table 14

Restricted Model: Step 1--Stepwise Procedure Expectation Variables and Intent to Re-enroll

Variable	Parameter Estimate	Standard Error	Type II SS	*F* Value	Pr > *F*
Intercept	3.8474	0.8721	12.1872	19.46	<.0001
V4. CACL	0.0269	0.0093	5.1883	8.29	0.0053

Table 15

Restricted Model: Step 2--Stepwise Procedure Expectation Variables and Intent to Re-enroll

Variable	Parameter Estimate	Standard Error	Type II SS	*F* Value	Pr > *F*

Intercept	4.0672	0.8693	13.3253	21.89	<.0001
V4. CACL	0.0182	0.0105	1.8264	3.00	0.0878
V5. CASS	0.0176	0.0102	1.8015	2.96	0.0900

As reported in Table 16, the final procedure, Step 3, resulted in one additional variable, V1. Academic Advising and Counseling Effectiveness, being added to the model. Step 3 of the procedure produced the highest R^2 value possible with the least number of variables (F = 23.76, p < .0001) yielding an R^2 = .1869 for the full model. Variables found to be statistically significant within the full model included V1. Academic Advising and Counseling Effectiveness, V4. Campus Climate and V5. Campus Support Services.

Table 16

Full Model: Step 3--SAS Stepwise Procedure
Expectation Variables and Intent to Re-enroll

Variable	Parameter Estimate	Standard Error	Type II SS	F Value	Pr > F
Intercept	4.1772	0.8569	13.9856	23.76	<.0001
V1. AACE	-0.0323	0.0178	1.9373	3.29	0.0742
V4. CACL	0.0304	0.0123	3.5801	6.08	0.0163
V5. CASS	0.0218	0.0103	2.6282	4.47	0.0384

Note. All variables left in the full model are significant at the .15 level.

Table 17 reports the results of the regression analysis for satisfaction variables tested by the Stepwise Forward procedure. As reported in Table 17, the model that produced the highest R^2 value with the least number of variables ($F = 38.44$, $p < .0001$) yielded an $R^2 = .2059$ for satisfaction levels of institutional variables to predict re-enrollment. Variable V8. Registration Effectiveness was the only significant variable added to the full model.

Table 17

Full Model: SAS Stepwise Procedure
Satisfaction Variables and Intent to Re-enroll

Variable	Parameter Estimate	Standard Error	Type II SS	*F* Value	Pr > *F*
Intercept	3.9321	0.6342	23.1486	38.44	<.0001
V8. RGEF	0.0469	0.0122	8.8991	14.78	0.0003

Note. All variables left in the full model are significant at the .15 level.

Research Hypothesis 4.1

A difference exists in students' expectations of institutional variables between Hispanic and non-Hispanic White students.

An analysis of variance (ANOVA) test, using the SAS GLM Procedure, was performed to analyze data collected from the research hypothesis. As reported in Table 18, the results did not support the hypothesis. Analysis of the statistical test resulted in no significant differences in expectation levels of students' college experiences for either ethnic group. Therefore, Research Hypothesis 4.1 was not accepted.

Research Hypothesis 4.2

A difference exists in students' expectations of institutional variables between men and women.

Table 18

Analysis of Variance--Comparison of Differences Between Ethnicity, Gender, and Ethnicity*Gender: Expectation

	F Values		
Cluster Variable	Ethnic	Gender	Ethnic*Gender
V1. AACE	0.11 (p = .738)	3.14 (p = .081)	1.63 (p = 1.63)
V2. ACER	0.08 (p = .775)	10.07 (p = .002*)	4.13 (p = .046*)
V3. ADFA	0.70 (p = .407)	5.33 (p = .024*)	0.37 (p = .545)
V4. CACL	0.91 (p = .344)	4.42 (p = .039*)	0.09 (p = .764)
V5. CASS	2.53 (p = .116)	2.88 (p = .094)	0.39 (p = .535)

V6.	CNIN	0.10 (p = .756)	5.86 (p = .018*)	2.31 (p = .133)
V7.	INEF	1.68 (p = .199)	0.79 (p = .379)	1.32 (p = .255)
V8.	RGEF	0.05 (p = .824)	7.31 (p = .009*)	0.41 (p = .526)
V9	RSDP	Test not performed--Expectation data not collected		
V10.	SFSE	0.84 (p = .364)	2.26 (p = .137)	0.22 (p = .644)
V11.	SREX	3.65 (p = .060)	8.06 (p = .006*)	1.44 (p = .234)
V12.	STCN	2.19 (p = .143)	2.96 (p = .089)	0.13 (p = .716)

*$p < .05$

An ANOVA test was used to analyze data collected from the research hypothesis. Duncan's multiple range test, a multiple comparison *t*-test was computed for variables found to be statistically different. As reported in Table 18, the findings of the post-hoc analysis supported the hypothesis there would be differences in expectation levels of students' college experiences for men and women. Therefore, Research Hypothesis 4.2 was accepted.

As summarized in Table 19, female students reported higher levels of expectation ratings compared to male students. Statistically significant differences were found for variables V2. Academic Services, V3. Admissions and Financial Aid, V4. Campus Climate, V6. Concern for the Individual, V8. Registration Effectiveness, and V11. Service Excellence.

Research Hypothesis 4.3

Interaction exists between students' ethnicity and gender, and students' expectations of institutional variables.

An ANOVA test was used to analyze data collected from the research hypothesis. Duncan's multiple range test was computed for variables found to be statistically different. As reported in Table 18, the post-hoc analysis

Table 19

Significant Expectation Variables: Gender Interaction

Expectation Variables	Number	Mean	Std. Dev.
V2. Academic Services			
Female	41	45.17*	4.87
Male	36	41.75	6.40
V3. Admissions and Financial Aid			
Female	39	39.95*	5.55
Male	36	34.36	7.06
V4. Campus Climate			
Female	39	95.64*	10.42
Male	35	91.09	8.33
V6. Concern for the Individual			
Female	40	32.55*	3.69
Male	36	30.94	3.45
V8. Registration Effectiveness			
Female	41	59.39*	5.45
Male	34	56.15	4.60
V11. Service Excellence			
Female	41	56.63*	6.63

Male	35	53.40	5.48

*$p < .05$

Table 20

Significant Expectation Variables: Ethnicity * Gender Interaction

V2. Academic Services	Number	Mean	Std. Dev.
Ethnicity * Gender:			
Non Hispanic Female	10	47.00*	3.09
Non Hispanic Male	14	39.78	8.31
Hispanic Female	31	44.58*	5.22
Hispanic Male	22	43.00	4.62

*$p < .05$

Table 21

Ethnic Interaction: Significant Satisfaction Variables

Satisfaction Variables	Number	Mean	Std. Dev.
V5. Academic Services			
Non Hispanic	20	24.36	10.83
Hispanic	50	30.40*	10.66
V9. Responsiveness to Diverse Populations			
Non Hispanic	24	23.75	10.98
Hispanic	52	29.89*	8.09

V10. Safety and Security			
Non Hispanic	23	19.78	6.94
Hispanic	53	23.32*	6.63

$^*p < .05$

results supported the hypothesis there would be differences in expectation levels of students' college experiences between ethnic and gender groups. A statistically significant difference was found for one expectation variable, V2. Academic Services. Therefore, Research Hypothesis 4.3 was accepted. As summarized in Table 20, Hispanic and non Hispanic White female students had statistically significant higher expectation ratings than the Hispanic and non Hispanic White males.

Research Hypothesis 5.1

A difference exists in students' satisfaction of institutional variables between Hispanic and non-Hispanic White students.

An analysis of variance (ANOVA) test, using the SAS GLM Procedure, was performed to analyze data collected from the research hypothesis. Duncan's multiple range test was computed for variables found to be statistically different. As reported in Table 22, the post-hoc analysis results supported the hypothesis there would be differences in satisfaction levels for Hispanic and non Hispanic students. Therefore, Research Hypothesis 5.1 was accepted.

Table 22

Analysis of Variance--Comparison of Differences Between Ethnicity, Gender, and Ethnicity*Gender: Satisfaction

Cluster Variable	*F* Values		
	Ethnic	Gender	Ethnic*Gender
V1. AACE	0.37 (*p* = .543)	0.03 (*p* = .871)	1.83 (*p* = .181)
V2. ACER	1.64 (*p* = .204)	2.55 (*p* = .115)	0.26 (*p* = .612)
V3. ADFA	0.65 (*p* = .423)	0.00 (*p* = .973)	0.12 (*p* = .733)
V4. CACL	0.26 (*p* = .612)	0.58 (*p* = .449)	1.27 (*p* = .264)
V5. CASS	4.63 (*p* = .035*)	0.00 (*p* = .944)	2.13 (*p* = .149)
V6. CNIN	0.39 (*p* = .533)	0.11 (*p* = .743)	0.09 (*p* = .765)
V7. INEF	0.43 (*p* = .515)	0.00 (*p* = .962)	0.44 (*p* = .512)
V8. RGEF	0.26 (*p* = .612)	0.57 (*p* = .452)	0.07 (*p* = .798)
V9. RSDP	7.87 (*p* = .006*)	0.43 (*p* = .513)	1.59 (*p* = .211)
V10. SFSE	4.81 (*p* = .032*)	0.78 (*p* = .379)	1.94 (*p* = .168)
V11. SREX	0.45 (*p* = .504)	0.74 (*p* = .392)	0.94 (*p* = .337)
V12. STCN	0.02 (*p* = .895)	0.22 (*p* = .637)	0.36 (*p* = .548)

$^*p < .05$

As reported in Table 22, findings revealed significant differences in levels of satisfaction for variables V5. Campus Support Services, V9. Responsiveness to Diverse Populations, and V10. Safety and Security. As summarized in Table 21, Hispanic students reported higher levels of satisfaction for these areas than non Hispanic students.

Research Hypothesis 5.2

A difference exists in students' satisfaction of institutional variables between men and women.

An ANOVA test was used to analyze data collected from the research hypothesis. As reported in Table 22, the findings did not support the hypothesis there would be differences in satisfaction levels of students' college experiences for men and women. Therefore, Research Hypothesis 5.2 was not accepted.

Research Hypothesis 5.3

Interaction exists between students' ethnicity and gender and students' satisfaction of institutional variables.

An ANOVA test was used to analyze data collected from the research hypothesis. As reported in Table 22, the results did not support the hypothesis there would be differences between ethnic and gender groups. Therefore, Research Hypothesis 5.3 was not accepted.

Summary

Chapter 4 presented the results of data analysis and interpretation of the results for the five research hypotheses. Results were obtained from 82 Doña Ana Branch Community College students who participated in the study. Demographic information was summarized, data were analyzed, and results from the research hypotheses were presented through several different statistical models.

Chapter 5 will discuss the conclusions drawn from the study and make recommendations for future considerations.

CHAPTER 5

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Introduction

The purposes of Chapter 5 were to summarize the study, discuss relevant conclusions and implications indicated by the results, and present recommendations for future research. Sections of the chapter are organized by summary of study, conclusions and implications, recommendations, and summary.

Summary of Study

The purpose of the study was to investigate and examine the relationship of institutional services, policies, procedures, and staff, compared to first-time community college students' reported expectations of the college and their level of satisfaction while attending the institution. The study examined the relationships between students' perceptions of their college experiences including their expectations and satisfaction with the institution. The study also examined the differences in students expectations of the college compared to their satisfaction with the institution. Further inquiry compared the differences between student ethnic and gender groups, and examined the potential influence the institution may have had on students' decisions to remain enrolled at Doña Ana Branch Community College. Findings of the statistical analyses provided the foundation for the development of the conclusions and implications presented in the following section.

Conclusions and Implications

The conclusions presented are related to the statistical information, derived from analyses of data, pertaining to the five research hypotheses.

Relationship of Student Expectations and Satisfaction

Analysis of the relationship between expectations and satisfaction (RH 1.1) revealed a positive correlation existed among students' ratings of their overall college expectations and overall satisfaction ($r = .63$). The expectation score was anticipated to be positively related with the satisfaction variable because Schreiner and Juillerat (1993) had developed the Student Satisfaction Inventory^{TM} to measure levels of student satisfaction based on the difference reported between expectation and satisfaction scores. It may be concluded that Doña Ana Branch Community College students had enrolled with preconceived ideas of what they expected from their college experience, and that students' overall perception of satisfaction was related to their interactions with college services, programs, faculty, and staff.

Further analysis of the institutional variables (RH 1.2) revealed varying degrees of relationships existed among different clusters of institutional variables. Institutional variable V5. Campus Support Services was most highly correlated at $r = .80$, while V7. Instructional Effectiveness was the lowest ($r = .26$). A conclusion of this analysis indicated that higher correlation coefficients resulted in increased congruency among students' perceptions of their expectations and levels of satisfaction.

These findings (RH 1.1 and RH 1.2) imply that students' perceptions of satisfaction with their college experiences were related to their expectations. The results confirm the findings of Juillerat's study (1995) which indicated that the importance of students' expectations being met was related to, but not identical to satisfaction levels. The positive correlations provide evidence of the interrelationships of expectations and satisfaction, and supports the importance of assessing students' perceptions of both expectations and satisfaction (Juillerat).

Differences in Student Expectations and Satisfaction

An examination of differences between students' overall expectations and overall satisfaction with their college experiences was performed for RH 2.1. Composite student ratings of how well the college had met their expectations (_ = 5.34), compared to ratings of satisfaction with those experiences (_ = 5.85) were reported. Results of the analysis indicated a significant difference existed between students' perceived ratings of how well the college had met their expectations compared to the satisfaction ratings of their college experience.

Students' perceptions that the college had not fulfilled their expectations, yet were none-the-less satisfied with these experiences, appeared to be contradictory results. One may conclude there were cumulative influences that positively affected students' perceptions, such as the campus climate or factors beyond the colleges' control. Potential influences including affiliations with other students, family or peer relationships, extracurricular activities, or other factors external of the college environment may have indirectly, yet, positively impacted students' perceptions of their college experiences (Astin, 1993b; Rendón, 2001a, 2001b; Tinto, 1975, 1993). Astin identified campus climate as having a major influence on students' level of satisfaction and influence upon persistence toward graduation. Astin (1993b) defined "campus climate" as the cumulative effect of institutional factors that impact students' feelings about their college.

Examination of differences, among the various clustered institutional variables, performed for RH 2.2 indicated there were differences between students' expectations and levels of satisfaction. Ratings of expectations for all variable categories were higher than reported levels of satisfaction for each. In comparison to the results found for RH 2.1, these findings revealed students' may have been more critical in their assessment of the individual cluster variables.

It may be concluded that students assessment of individual institutional variables received greater scrutiny, than were given to the overall assessment of college experiences tested in research hypothesis 2.1.

Schreiner and Juillerat (1993), in constructing the Student Satisfaction Inventory^{TM}, defined student satisfaction as the measure between expectation and perceptions of satisfaction. Given this definition, the results of RH 2.2 revealed gap differences which indicated varying levels of non-satisfaction for each item. The smallest gap difference was found for V12. Student Centeredness (t = 5.60) while the largest discrepancy, between expectation and satisfaction levels, was V10. Safety and Security (t = 9.46). Expectations for students' safety and security were not as important to students' as other items, yet it received the lowest satisfaction ratings. The gap difference, or measure of non-satisfaction, found in variable V10. Safety and Security, indicates a need for the college to give this area additional attention to determine why students were less satisfied with this category compared to expectation variables.

Implications of the findings indicated there were a number of dynamics occurring in the college that negatively influenced students' perceptions and feelings about the various aspects of each institutional variable. Rendón's theory of Validation (2001a, 2001b) supports the necessity for colleges to improve their campus services and systems, thus creating a campus culture that is supportive and caring. Without further examination of the magnitude of differences between expectations and satisfaction, attempts by the institution to alter or change services, or programs may not result in increased student satisfaction leading to student success.

Institutional Variables and the Influence on Students' Intent to Re-enroll

Research hypothesis 3 indicated criterion variable V15. Re-enroll (student intent to re-enroll), could be predicted by a combination of expectation or satisfaction variables. The inventory item statement read: "All in all, if you had to do it over again, would you enroll here?"

Expectation variables V1. Academic Advising and Counseling Effectiveness, V4. Campus Climate, and V5. Campus Support Services produced the highest R^2 value with the fewest variables (R^2 = .1865). It may be concluded that these expectation variables could be used as a predictor of whether students would re-enroll again at Doña Ana Branch Community College. Yet, previous studies have not identified or provided evidence of student expectations being used as an indicator of intentions to re-enroll in community colleges (Juillerat, 1995).

The lone satisfaction predictor variable that resulted from the regression analysis was variable V8. Registration Effectiveness (R^2 = .2059). Students reported they were most satisfied with these services offered by the college.

It may be implied that first-year students had positive experiences utilizing these services, and thus, reported greater satisfaction with their college experiences. It can be concluded that students' decisions to re-enroll may be predicted by the positive experiences in this area.

Researchers have confirmed positive relationships exist between student satisfaction and retention (Astin, 1993b; Bean, 1980; Bean and Bradley, 1986; Braxton, 2000; Juillerat, 1995; Noel et al., 1985; Spady, 1970; Tinto, 1993). The re-enrollment criterion variable is an assessment of potential student dropout, which affects retention rates. Students who indicate they would not re-enroll, if given had the opportunity, would be potential candidates for dropping out.

Differences between Student Groups

Statistical tests performed for research hypotheses 4 and 5 revealed differences among the two different student groups. Tests for gender and ethnicity plus tests for interaction between gender and ethnicity were conducted. It should be noted that due to the relatively small number of non Hispanic White student responses (n = 24), compared to Hispanic students (n = 53), results of findings may not be generalized to the population at Doña Ana Branch Community College.

Research hypothesis 4.1 tested for differences of students' expectations between ethnic groups. As evidenced in the non-significant findings it may be concluded there were no differences in Hispanic and non Hispanic White students' expectations of their college experiences.

A difference was observed when tested for levels of satisfaction among the same ethnic groups. Results of research hypothesis 5.1 indicated Hispanic students had higher levels of satisfaction for variables V5. Campus Support Services, V9. Responsiveness to Diverse Populations, and V 10. Safety and Security.

One may conclude that first-time Hispanic students felt more comfortable, and had more easily assimilated into the community college environment, which resulted in greater satisfaction than those experienced by non Hispanic White students. Research indicates that majority groups assimilate more readily into a majority culture than do minority groups. This would imply that Hispanic students enrolled at a Hispanic-Serving Institution, such as Doña Ana Branch Community College, would be more satisfied with their college experiences.

Research hypothesis 4.2 indicated significant differences in men and women's expectations of their college experiences. Women reported higher expectations for a majority of the institutional variables. Historically, women have enrolled in greater numbers than men at Doña Ana Branch Community College. Women have also traditionally been attracted to the colleges' strong health and business associate degree programs.

The findings from research hypothesis 4.2 concluded that women had higher levels of expectation for the college to assist and support them than did men. It may also be implied that women were more willing to seek assistance in their desire to be successful in their studies.

As evidenced in the non-significant results of research hypothesis 5.2 there were no differences in satisfaction levels between men and women students.

Findings from this hypothesis conclude that although women had higher expectations of their college experiences than men, their resultant satisfaction with their college experiences was more similar than different. It can be implied that women reported their satisfaction with the college, based on their expectations of how the college could best assist them in reaching their goals, while the men did not.

ANOVA tests performed for research hypothesis 4.3, revealed minimal interaction between ethnicity and gender for ratings of college expectations. One variable, V2. Academic Services, indicated Hispanic and non Hispanic White male students had lower expectations of these services than did Hispanic and non Hispanic White females.

One implication is that women students were more likely to use these services than men, and thus had greater expectations for those services. Women students may also have perceived these services to be important, and equated their success in college to use of those services.

From the findings of research hypothesis 5.3 it was concluded that no significant interaction had occurred, for differences among ethnic and gender groups, responding to levels of satisfaction with their college experiences. The implication of this finding is that both groups were equally and generally satisfied with the services, programs, and interactions with personnel they had experienced at the college.

Retention Implications

The principle objective of the study was identification of institutional variables that may have positively contributed to students' satisfaction with the college, and if those variables may have influenced their decisions to remain in college. As the study findings indicated, influences of institutional services, programs, and staff did have an impact on students' satisfaction with their college experiences. As supported in previous research, the underlying premise of the study was that students' experiences, while attending college, could be shaped either positively and negatively by their interactions within the organization (Astin, 1993b; Cross, 1998; Naretto, 1995; Rendón, 2001b; Tinto, 1975, 1987, 1993). This occurs through a myriad of educational programs and services provided by the institution, through deployment of established procedures and policies, and through students' daily contact and interactions with employees.

Retention is not an end goal, or by-product of college attendance, but a complex multifaceted continuum. Retention is a multidimensional process wherein the responsibility of the institution must be focused on establishment of and maintenance of a supportive, student-centered organizational culture; one where students will be provided the necessary resources and support to be successful (Levitz & Noel, 2000a). Faculty, administration, and college staff must participate equally in providing students the support and assistance they expect, or may need, in order to successfully attain their educational goals.

The study found several relationships and differences between expectations and satisfaction variables, and those related to intent to re-enroll. These findings are but a few of the predictors of student retention. As evidenced in the literature, community college students, particularly those that are first-time, first-generation, and from diverse ethnic backgrounds, possess a different set of personal and background characteristics that influence retention well outside the control of the college (Bangura, 1992; Clark-Tolliver, 1996; Dexter, 1992; London, 1996; Phillippe & Valiga, 2000; Rendón, 1995; Ramirez, 1996; Richardson & Skinner, 1992).

The study limited participants to continuously enrolled students that were entering their second year of studies at the community college. The study excluded participation to those that had attended but were no longer enrolled. The intent was to identify which areas of influence the institution had on students perceptions of satisfaction, from the perspective of students who had chosen to continue working toward accomplishment of their educational goals.

The study supports previous research results that found interpersonal relationships between college personnel and students to be valuable and important in the retention equation (Bangura, 1992; Blanca, 1989; Cabrera, Nora, & Castaneda, 1993; Levitz & Noel, 2000a, 2000b; Ramirez, 1996; Roueche, 2001). This was evidenced by the fact that students at Doña Ana Branch Community College felt their overall expectations of the college had not been met, however, they were none-the-less, generally satisfied with their experiences. Those that made use of, or accessed the different institutional services and programs, offered by the college, generally found them to be of benefit. The study provides an example of the value-added effect that student involvement and interactions with college personnel and services can have upon among student satisfaction.

Although few differences were revealed between gender and ethnic groups, the consistency of satisfaction levels among all students indicated that the college has developed an organizational culture wherein diversity is not only recognized but embraced. Students that have the availability of a variety of institutional systems to assist them, coupled with caring and supportive faculty, administration, and staff will be more satisfied, and thus, more likely to continue in pursuit of their goals.

Based on the findings of the study, it appears that other community colleges would benefit from participation in similar studies. Through further identification of institutional services, programs, and staff interactions, that may have a direct impact on students' decisions to remain enrolled in their chosen college, institutions may better determine whether to allocate new or reallocate existing resources to improve upon these areas (Crockett, 1985; Noel, 1994; Noel et al., 1985; Rendón, 1995).

Student satisfaction is an important element in the student retention equation. Without careful identification of, and attention to, students' expectations of the college, compared to their satisfaction, an institution may commit valuable time and resources in areas that may not have as much impact on student satisfaction and retention, than other areas of identified need (Hundrieser, 1999; Juillerat, 1995; Noel-Levitz Inc., 2001; Schreiner & Juillerat, 1993;). The retention continuum consisting of; 1. expectations leading to satisfaction, and 2. satisfaction leading to retention, may well be realized through further research and practical application of knowledge derived from the study.

Recommendations for Future Research

Recommendations for the study may be relevant for similar community college campuses, administrative leadership teams, student services staff, academic administrators and deans, faculty, and student support services personnel.

The study was conducted within a mid-size community college in the New Mexico higher education system. Doña Ana Branch Community College, a branch two-year institution is co-located on the same campus with New Mexico State University.

The study limited participation to students enrolled at Doña Ana Branch Community College, and those that had declared a major seeking to complete an associate of applied science degree. Similar community colleges may find it advantageous to include students who have intentions of transferring to a university upon completion of their academic studies. University students have exhibited different characteristics, motivations, needs, and expectations of their college experiences than community college students.

It is recommended that future research studies be replicated in Hispanic-Serving community colleges located along the United States and Mexico international borders. Further research of similar populations in these regions could assist colleges in identification of institutional variables that are unique to their college environment. Comparisons of results, state-by-state, could further enhance and increase the understanding of students enrolled in similar institutions. To date, studies of this nature have not been conducted in two-year colleges. Thus, the opportunity for replication exists. Additionally, the study could provide a baseline for longitudinal studies of Hispanic-Serving community college students, especially first-time students who have experienced higher drop-out rates compared to traditional university students.

The study findings suggested that the college could further assess and examine data from the study. Through examination of the data, the college leadership may more easily identify areas of strength and weaknesses, and prioritize uses of institutional resources for improvement of services and programs. Follow-up studies conducted on regular intervals may also reveal whether improvement goals for areas of weaknesses have been achieved.

Improvements to the study may result from inclusion of students that had previously dropped out and were no longer enrolled at the community college. The perspective of those students may provide additional insight into the predictive ability of satisfaction compared with intent to re-enroll.

The study focused on first-time students enrolled in a community college. Future studies may find it desirable to include their entire student population. The fewer than anticipated number of respondents in the study could potentially be expanded to strengthen results and provide additional insights into the predictors of retention.

Summary

The study researched and analyzed the nature of student satisfaction related to retention of community college students within a Hispanic-Serving Institution. The analysis revealed statistical and practical significance of institutional influences upon students' level of satisfaction with the institution in comparison to their expectations of the college. Differences in satisfaction and expectations were found to exist among the students, institutional variables were found to influence the potential for students' to re-enroll, and relationships were found among students' ratings of their college expectations and their level of satisfaction.

The results of the study provided retention implications and recommendations for improvement of community college student retention. Based on the results of the study, recommendations for future research were identified that would enable other community colleges to learn more about the dynamics of their students.

APPENDICES

APPENDIX A

SUMMARY OF INSTRUMENT ITEM STATEMENTS

Student Satisfaction Inventory™

Community, Junior and Technical College Version

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V1. Academic Advising and Counseling Effectiveness

(AACE): Assesses the personal concern for students, the comprehensiveness of the academic advising program, and evaluates advisors' competence, knowledge, and approachability. Instrument item numbers:

6. My academic advisor is approachable.
12. My academic advisor helps me set goals to work toward.
25. My academic advisor is concerned about my success as an individual.
32. My academic advisor id knowledgeable about my program requirements.
40. My academic advisor is knowledgeable about the transfer requirements of other schools.
48. Counseling staff care about students as individuals.
52. This school does whatever it can to help me reach my education goals.

V2. Academic Services

(ACER): Assesses student services including the library, computer labs, study areas, and tutoring services. Instrument item numbers:

14. Library resources and services are adequate.
21. There are a sufficient number of study areas on campus.
26. Library staff are helpful and approachable.
34. Computer labs are adequate and accessible.
42. The equipment in the lab facilities is kept up to date.
50. Tutoring services are readily available.
55. Academic support services adequately meet the needs of students.

V3. Admissions and Financial Aid

(ADFA): A measure of admission's counselor's competence and knowledge, and students' perceptions of the availability and effectiveness of these areas. Instrument item numbers:

7. Adequate financial aid is available for most students.
13. Financial aid awards are announced to students in time to be helpful in college planning.
20. Financial aid counselors are helpful.
33. Admissions counselors accurately portray the campus in their recruiting practices.
41. Admissions staff are knowledgeable.
49. Admissions counselors respond to prospective students' unique needs and requests.

V4. Campus Climate

(CACL): An indicator of how well the institution provides experiences that promote a sense of belonging and campus pride. Instrument item numbers:

1. Most students feel a sense of belonging here.
2. Faculty care about me as an individual.
16. The college shows concern for students as individuals.
22. People on this campus respect and are supportive of each other.
27. The campus staff are caring and helpful.
28. It is an enjoyable experience to be a student on this campus.
31. The campus is safe and secure for all students.
36. Students are made to feel welcome on this campus.
44. I generally know what's happening on campus.
45. This institution has a good reputation within the community.
52. This school does whatever it can to help me reach my educational goals.
57. Administrators are approachable to students.
59. New student orientation services help students adjust to college.
63. I seldom get the "run-around" when seeking information on this campus.
67. Channels for expressing student complaints are readily available.

V5. Campus Support Services

(CASS): Measures the quality of services and support programs. Instrument item numbers:

10. Child care facilities are available on campus.
17. Personnel in the Veterans' Services program are helpful.
19. This campus provides effective support services for displaced homemakers.
30. The career services office provides students with the help they need to get a job.
38. The student center is a comfortable place for students to spend their leisure time.
47. There are adequate services to help me decide upon a career.
59. New student orientation services help students adjust to college.

V6. Concern for the Individual

(CNIN): Assesses the college's commitment to treating each student as an individual. Groups that frequently interact with students, such as faculty, advisors, and counselors are included in this assessment. Instrument item numbers:

2. Faculty care about me as an individual.
16. The college shows concern for students as individuals.
25. My academic advisor is concerned about my success as an individual.
29. Faculty are fair and unbiased in their treatment of individual students.
48. Counseling staff care about students as individuals.

V7. Instructional Effectiveness

(INEF): A measure of the students' academic experience, the curriculum, and the college's overall commitment to academic excellence. Instrument item number:

2. Faculty care about me as an individual.
18. The quality of instruction I receive in most of my classes is excellent.
23. Faculty are understanding of students' unique life circumstances.
29. Faculty are fair and unbiased in their treatment of individual students.
37. Faculty take into consideration student differences as they teach a course.
46. Faculty provide timely feedback about student progress in a course.
54. Faculty are interested in my academic problems.

58. Nearly all of the faculty are knowledgeable in their fields.
61. Faculty are usually available after class and during office hours.
64. Nearly all classes deal with practical experiences and applications.
65. Students are notified early in the term if they are doing poorly in a class.
66. Program requirements are clear and reasonable.
69. There is a good variety of courses provided on this campus.
70. I am able to experience intellectual growth here.

V8. Registration Effectiveness

(RGEF): An assessment of how effective and smooth the registration and billing processes are conducted. Instrument item numbers:

5. The personnel involved in registration are helpful.
8. Classes are scheduled at times that are convenient for me.
15. I am able to register for classes I need with few conflicts.
35. Policies and procedures regarding registration and course selection are clear and well-publicized.
43. Class change (drop/add) polices are reasonable.
51. There are convenient ways of paying my school bill.
56. The business is open during hours which are convenient for most students.
60. Billing policies are reasonable.
62. Bookstore staff are helpful.

V9. Responsiveness to Diverse Populations

(RSDP): Assesses the college's commitment to meeting the needs of under represented students, students with disabilities, part-time, older, and returning students.

How satisfied are you that this campus demonstrates a commitment to meeting the needs of:

81. Part-time students?
82. Evening student?
83. Older, returning learners?
84. Under-represented populations?
85. Commuters?
86. Students with disabilities?

V10. Safety and Security

(SFSE): A measure of the responsiveness of the institution to students' personal safety and security on campus. Instrument item numbers:

4. Security staff are helpful.
11. Security staff respond quickly in emergencies.
24. Parking lots are well-lighted and secure.
31. The campus is safe and secure for all students.
39. The amount of student parking space on campus is adequate.

V11. Service Excellence

(SREX): Measures where personal concern for students and quality service are fated most and least favorably. Instrument item numbers:

5. The personnel involved in registration are helpful.
22. People on this campus respect and are supportive of each other.
26. Library staff are helpful and approachable.
27. The campus staff are caring and helpful.
44. I generally know what's happening on campus.
57. Administrators are approachable to students.
62. Bookstore staff are helpful.
63. I seldom get the "run-around" when seeking information on this campus.
67. Channels for expressing student complaints are readily available.

V12. Student Centeredness

(STCN): Measures the institution's attitude toward students and the degree to which they feel welcome and valued. Instrument item numbers:

1. Most students feel a sense of belonging here.
16. The college shows concern for students as individuals.
27. The campus staff are caring and helpful.
28. It is an enjoyable experience to be a student on this campus.
36. Students are made to feel welcome on this campus.
57. Administrators are approachable to students.

Additional variables tested

V13. Overall Expectation

(OEX): A rating of how well college has met students' expectations. Instrument item number:

96. So far, how has your college experience met your expectations?

1. Much worse than I expected
2. Quite a bit worse than I expected
3. Worse than I expected
4. About what I expected
5. Better than I expected
6. Quite a bit better than I expected
7. Much better than I expected

V14. Overall Satisfaction

(OSA): A rating of how satisfied students are with their college experience. Instrument item number:

97. Rate your overall satisfaction with your experience here thus far.

1. Not satisfied at all
2. Not very satisfied
3. Somewhat dissatisfied
4. Neutral
5. Somewhat satisfied
6. Satisfied
7. Very satisfied

V15. Re-enroll

(REN): A measure of student intent to re-enroll, at the college they are currently attending, if given the choice to start again. Instrument item number:

98. All in all, if you had it to do it over again, would you enroll here?

1. Definitely not
2. Probably not
3. Maybe not
4. I don't know
5. Maybe yes
6. Probably yes
7. Definitely yes

APPENDIX B

DABCC STUDY APPROVAL CORRESPONDENCE

June 1, 2001

Dr. Raul Ramirez
Campus Executive Officer
Doña Ana Branch Community College
New Mexico State University (MSC 3DA)
P.O. Box 30001
Las Cruces, New Mexico 88003-8001

Dear Dr. Ramirez;

I am requesting permission to conduct a survey of second year students at Doña Ana Branch Community College. The survey is an integral component of my dissertation research study. The purpose of the study is to identify institutional retention variables that contribute to Hispanic students' decisions to remain enrolled in college.

Following your approval, I will coordinate administration of the survey, to be conducted on campus during the Fall 2001 semester, with the Campus Student Services Officer. Student participation will be strictly voluntary requiring about 20 minutes of their time.

Student anonymity will be protected and all data collected will remain confidential. I will obtain written approval from New Mexico State University, adhering to the Human Subjects for Research Practices, as prescribed in the University Administrative Policies and Procedures Manual.

Thank you for your thoughtful consideration of this request. Upon completion of my study, I will share a copy of my dissertation and the survey results. If you have any questions, please contact me at 527-7767 days or 524-3913 evenings.

Respectfully,

Michael R. Elrod
New Mexico State University

APPENDIX C

PARTICIPANT CORRESPONDENCE: LETTER #1

October 8, 2001

Student Name
Address
City, State Zip

Dear Student Name:

Welcome back to Doña Ana Branch Community College for another year. We hope your semester has been a successful one thus far!

In order for us to improve our academic programs and student services we are conducting a student satisfaction study. As a valued member of our college, we have specially selected you to participate in our study. The purpose of the study is to learn more about your expectations of our student services, educational programs, and faculty and staff. We are also interested in knowing how satisfied you have been with your college experiences during the past year.

We would appreciate your taking time out of your busy schedule to attend one of the meeting dates, listed on the next page, to complete a short questionnaire. Participation in the study is strictly voluntary and all responses will be kept confidential. The form will take approximately 20 minutes to complete, and of course there are no right or wrong answers.

If you choose to participate in the study you will automatically become eligible to win some valuable prizes! To enter the free door prize drawings, simply bring the attached ticket stub with you to one of the designated meeting times. As an added bonus, for participating in the study, you will also receive a coupon good for a free lunch from the DABCC Snack Bar.

Remember, only selected students are eligible to participate in the study, so bring the attached ticket for a chance to win some great prizes! We look forward to seeing you soon. Please feel free to call Mike Elrod at 527-7767, if you have any questions concerning the study.

Sincerely,

Raul Ramirez	Mike Elrod
Campus Executive Officer	Study Coordinator

Student Satisfaction Study

Schedule

We have scheduled several days and times so you may choose a time that best fits your class schedule. You may come and go any time between the hours listed below. Please allow approximately 20 minutes to complete the form.

Day	Date	Time	Location	*Room No.
Tuesday	October 16	8:00-10:00 am	DABCC	HLCR 190A
		11:00-1:00 pm	DABCC	HLCR 190A
		4:00-6:00 pm	DABCC	SSCR 116F
Wednesday	October 17	8:00-10:00 am	DABCC	ACR 114M
		11:30-1:30 pm	DABCC	ACR 114M
		4:00-6:00 pm	DABCC	ACR 114M
Thursday	October 18	9:00-11:00 am	DABCC	HLCR 190A
		12:30-2:30 pm	DABCC	HLCR 190A
		4:00-6:00 pm	DABCC	HLCR 190A

* NOTES:

7. Room HLCR 190A is the conference room located in the new Health Building wing on the far southwest side of the DABCC campus, next to the big parking lot facing the I-10 frontage road.

8. Room ACR 114M is the conference room located directly behind the DABCC Administrative Offices, next to the North Hallway (Espina St. entrance).

9. Room SSCR 116F is the conference room located inside the Student Services Office, next to the DABCC Snack Bar area.

P.S. The door prize winners' names will be drawn on October 31. Don't forget to bring you ticket stub (attached herein) to become eligible for the drawing.

Have lunch on us too just for filling out the questionnaire!

BEST COPY AVAILABLE

APPENDIX D

PARTICIPANT CONSENT FORM

Consent Form to Participate in Research

DESCRIPTION:
I am interested in students' opinions and perceptions about their community college experiences. I am asking Doña Ana Branch Community College (DABCC) students to complete a written questionnaire. The purpose of the research study is to learn more about your expectations of DABCC's student services, educational programs, faculty and staff. The questionnaire contains statements to learn how well DABCC has met your expectations while enrolled. There are no right or wrong answers. Completion of the form will take approximately 20 minutes.

CONFIDENTIALITY:
Your name will not be attached to your questionnaire and you are free to withdraw any time. Your name and any other identifiers will be kept in a locked file only accessible by me. Any information published from this study will not identify you by name.

VOLUNTARY PARTICIPATION:
Participation in this study is voluntary and you may choose to withdraw, any time, without penalty. Volunteers will receive courtesy (free) refreshments upon completion of the questionnaire.

CONTACTS:
If you have any questions about this research project, please contact the Principal Investigator listed below. If you have any questions about your rights as a research subject, contact the NMSU Vice President for Research at (505) 646-2481.

SIGNATURE:
Your signature indicates that you fully understand the intent of the study, what you are being asked to do, and that you are voluntarily signing this consent form. If you have any questions about this study, please feel free to ask them now or any time during the study.

Signature ______________________________ Date __________________

Principal Investigator:
Michael R. Elrod, DABCC
New Mexico State University
(505) 527-7767

Title of Research Study: A Comparison of Institutional Factors and Student Satisfaction: Retention Implications in a Hispanic-Serving Community College.

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APPENDIX E

PARTICIPANT CORRESPONDENCE: FOLLOW-UP LETTER #2

October 22, 2001

Student Name
Address
City, State Zip

Dear Student Name:

About two weeks ago, we wrote to you requesting assistance with a Doña Ana Branch Community College student satisfaction study. As a member of a select group of students, your help in completing this study is especially important. In order to complete our study we need your help!

The purpose of the study is to learn more about your college experiences, while attending DABCC. We are interested in knowing how satisfied you are with a variety of college services and programs such as our support services, the academic programs, and, our faculty and staff.

Participation in the study is strictly voluntary and your responses will be kept confidential. The study questionnaire form will only take about 20 minutes to complete.

You may complete the questionnaire by attending one of the scheduled dates any time during the hours listed below.

Day	Date	Time	Location	*Room No.
Monday	October 29	8:30-10:30 am	DABCC	ACR 114M
Tuesday	October 30	4:00-6:00 pm	DABCC	HLCR 190A

*Note: Room 114M is the conference room located directly behind the DABCC Administrative Offices. Room HLCR 190A is the conference room located in the new Health Building wing on the far southwest side of the DABCC Campus, next to the big parking lot.

If, for some reason, you are unable to attend one of the sessions, you may drop by the DABCC Administrative Offices, Room 114, and complete the form there. Office hours are Monday through Friday, 8:00 a.m. to 5:00 p.m. The last day to participate in the study is Wednesday, October 31.

Don't forget, by participating in the study you will automatically become eligible to win some valuable gifts in our door prize drawings! In order to enter though you must bring the attached ticket stub with you. As an added bonus, upon completion of the questionnaire, we will give you a coupon good for a free lunch at the DABCC snack bar.

Thanking you in advance for your help! Should you have any questions concerning the study please give Mike Elrod a call at 527-7767.

We hope to see you soon!

Sincerely,

Raul Ramirez
Campus Executive Officer

Mike Elrod
Study Coordinator

APPENDIX F

PARTICIPANT CORRESPONDENCE: FOLLOW-UP LETTER #3

November 5, 2001

Student Name
Address
City, State Zip

Dear Student Name:

Would you please help us? In order to complete our campus-wide student satisfaction research study your participation is important. As you recall, we first contacted you about four weeks ago requesting your assistance with our project. As a member of a select group of students, your help in completing this study is especially important.

The study is being conducted by Mike Elrod, Community and Workforce Development Officer at Doña Ana Branch Community College. For your convenience I have enclosed a survey form you may complete at your leisure.

The purpose of the study is to learn more about your college experiences, while attending DABCC. We are interested in knowing how satisfied you are with a variety of college services and programs such as our support services, the academic programs, and, our faculty and staff.

Participation in the study is strictly voluntary and your responses will be kept confidential. The study questionnaire form will take about 20 minutes to complete. All information from the study will remain confidential with the forms stored in a locked cabinet in my office. Students names will not be identified in any reports and only summarized data will be reported in future publications.

BEST COPY AVAILABLE

If you choose to participate in the study, please complete both the Consent Form and the Student Satisfaction Inventory form.

- ✓ Carefully read the instructions and use only a #2 pencil to fill in the inventory sheet.
- ✓ Do not complete numbers 71 through 86 or 112 and 113.
- ✓ On the last page of the SSI, you do not need to write your Social Security number.
- ✓ Once completed, place both items in the enclosed envelope and return it by mail, or you may drop the envelope at the Administrative Office in room 114 at the Las Cruces campus.

Office hours are Monday through Friday, 8:00 a.m. to 5:00 p.m.

The deadline to return your envelope is
Friday, November 16.

Thanking you in advance for your help! If you have any questions or concerns about the study, you may contact me at 527-7767.

Sincerely,

Mike Elrod
Study Coordinator

P.S. Whether you choose to participate in our study or not, enjoy a FREE LUNCH on DABCC. The enclosed coupon may be redeemed at the DABCC Snack Bar, in Las Cruces through the end of November.

c. Dr. Raul Ramirez, Campus Executive Officer

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